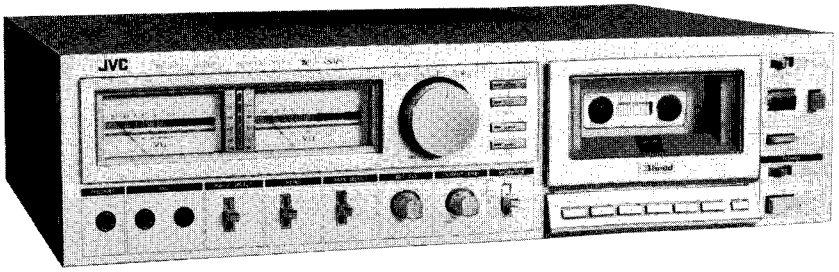
JVC

SERVICE MANUAL

MODEL

KD-A77 A/B/C/E/J/U

STEREO CASSETTE DECK



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Specifications

Type : Stereo cassette deck
Track system : 4-track, 2-channel
Tape speed : 1-7/8 inch/sec (4.8 cm/sec)
Frequency response :
0VU
  Metal tape ; 25—12500Hz ±3dB(Typical)
  SA/CrO_2 tape ; 25—8000Hz ±3dB(Typical)
—20VU
  Metal tape *1 ; 15—20000Hz
    25—18000Hz ±3dB(Typical)
  SA/CrO_2 tape *2 ; 15—20000Hz
    25—18000Hz ±3dB(Typical)
  SF/Normal tape *3 ; 15—19000Hz
    25—17000Hz ±3dB(Typical)
S/N ratio : Surpases DIN 45 500
60dB (from peak level, weighted, Metal tape)
The S/N is improved by 5dB at 1kHz and by 10dB above 5kHz with ANRS on.
(DIN 45 500 weighted)
Effect of Super ANRS : (normal tape)
Improvement of S/N : the same as with ANRS
Improvement of frequency response
: 0VU recording; 6dB at 10kHz
+5VU recording; 12dB at 10kHz
Improvement of distortion
: 0VU recording;
3% or less at 10kHz
+5VU recoridng;
3% or less at 10kHz
Wow and flutter : 0.04% (WRMS),
0.14% (DIN 45 500)
Crosstalk : 65dB (1kHz)
Hormonic distortion : K3; 0.4%, THD: 1.0%
(metal tape, 1kHz 0VU)
Bias : AC bias (85kHz)
Erasure : AC erasure (85kHz)
Heads : 3 heads
SEN ALLOY head for recording,
SEN ALLOY X cut type for playback and two-gap SEN ALLOY head for erasure

Motors : FG type DC servo motor (for Capstan)
DC motor (for Reel)
Fast forward time : 85 sec. with C-60 cassette
Rewind time : 85 sec. with C-60 cassette
Semiconductors : 18 ICs, 49 transistors, 59 diodes, 14 LEDs
Input terminals : Mic jack x 2,
Max. sensitivity;
0.2mV (—72dBs)
Matching impedance;
600Ω—10kΩ
Input jack x 2,
Min. input level;
80mV (—20dBs)
Input impedance; 100kΩ
Output terminals : Output jack x 2,
Output level; 0—300mV
Output impedance; 6kΩ
Matching impedance:
50kΩ or more
Phones jack x 1,
Output level; 0~0.5mW/8Ω
Matching impedance: 8Ω—1kΩ
Power requirement : AC 120V, 60Hz (KD-A77C/J)
AC 240/220/120V, 50/60Z (KD-A77A/B/E)
AC 240/220/120/100V, 50/60Hz (KD-A77U)
Power consumption : 36W
Dimensions : 17-3/4" (450 mm) W
4-3/4" (120 mm) H
12-7/16" (316 mm) D
Weight : 18.3 lbs (8.3 kg)

Note: *1 ... SCOTCH METAFINE or Equivalent
*2 ... TDK SA or Equivalent
*3 ... MAXELL UD or Equivalent

Design and specifications are subject to change without notice.

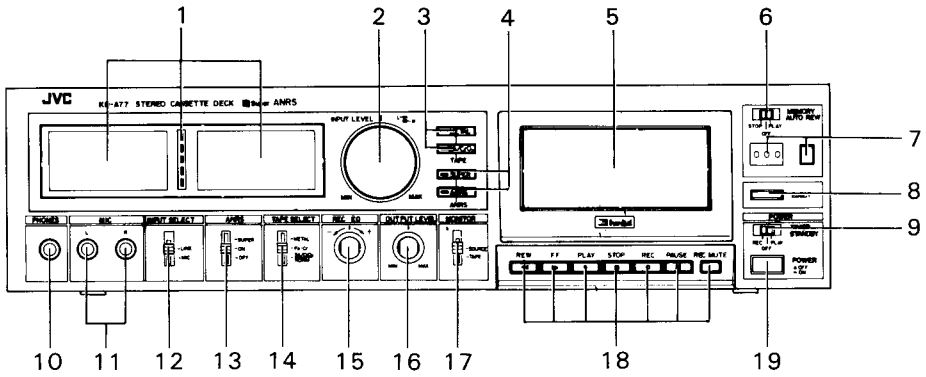
Features

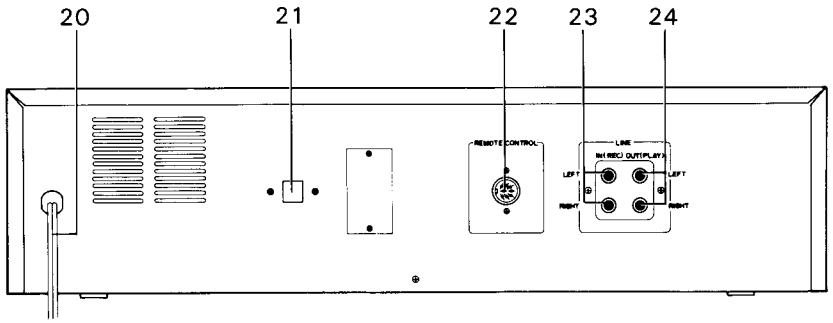
1. 3 SA (SEN-ALLOY) heads
   Combined SA (SEN-ALLOY) record/play (X-cut type) heads make possible record monitoring. The erase head is a 2-gap head also made from SA (SEN-ALLOY).
2. Two-motor ID (Independent Drive) mechanism
   This mechanism incorporates a newly developed Back Tension system which gives improved tape contact with the head.
3. Self-illuminated buttons for full logic mechanical operation (excluding STOP or REC-MUTE modes.)
4. Three position Metal-Tape-Compatible tape select switch.

   $\text{METAL} - \text{FeCr} - \frac{\text{SA/CrO}_2}{\text{NORM}}$

   (Automatic switching between SA/CrO_2 and NORM)
5. The REC MUTE button is at the right side of the mechanical operation buttons.
6. ANRS which reduces tape hiss to an inaudible level and Super ANRS which improves linearity at high frequencies are incorporated.
7. MEMORY/AUTO REW switch
8. Recording equalizer switch
9. Timer standby capability for automatic recording or playback using an AC timer.
10. Geared and oil-damped cassette holder.
11. New Metal-Tape-Compatible multi-peak level indicators (+9dB, +6dB, +3dB, −2dB, −7dB), together with back-lit VU meters with the expanded coverage from +7VU to −20VU, make level observation easier.
12. OUTPUT volume (for LINE and HEADPHONES use)
13. Remote control terminal (for the optional remote control unit — R-30E).

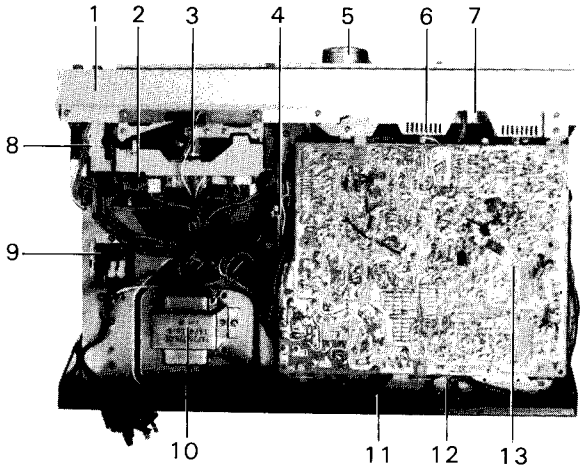
Controls and Connections

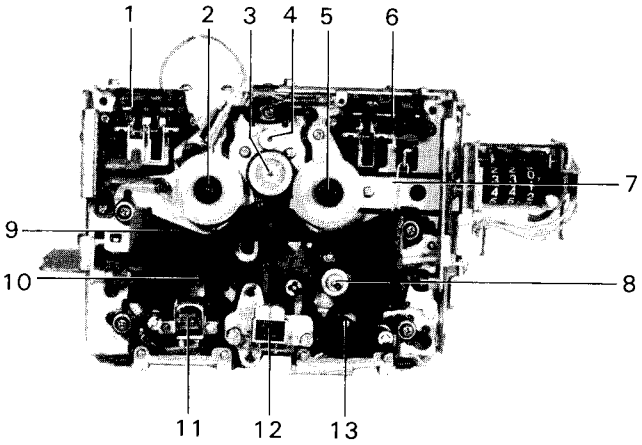




1. VU meters and Multi-point peak level indicators
2. INPUT LEVEL control
3. TAPE indicators
4. ANRS/Super ANRS indicators
5. Cassette holder
6. MEMORY/AUTO REW switch
7. Tape counter/counter reset button
8. EJECT button
9. TIMER STANDBY switch
10. PHONES jack
11. MIC jacks
12. INPUT SELECT switch
13. ANRS switch
14. TAPE SELECT switch
15. REC EQ switch
16. OUTPUT LEVEL control
17. MONITOR switch
18. Cassette Operation buttons
    - ◀◀ REW (rewind) button
    - ▶▶ FF (fast forward) button
    - ▶ PLAY button
    - ■ STOP button
    - ○ REC (record) button
    - ▮▮ PAUSE button
    - REC MUTE button
19. POWER switch
20. Power cord
21. Voltage select switch (KD-A77 A/B/E/U)
22. REMOTE CONTROL socket
23. LINE IN (REC) terminals
24. LINE OUT (PLAY) terminals

Main Parts Location





1. Front panel assembly
2. DC solenoid for playback
3. Reel motor
4. Geared and oil-damped brake ass'y
5. Variable resistor (INPUT LEVEL control)
6. Meter cover
7. LED P.W. Board ass'y
8. Hall element P.W. Board ass'y
9. Power switch
10. Power transformer
11. Remote control socket (DIN socket)
12. Pin jacks ass'y
13. Mecha. control P.W. Board ass'y

(Mechanical parts)

1. Switch holder (L)
2. Supply reel ass'y
3. Idler ass'y
4. Reel motor ass'y
5. Take-up reel ass'y
6. Switch holder (R)
7. Connecting wire (for play solenoid)
8. Capstan
9. Slide base ass'y
10. Stad with pad (for back tension)
11. Erase head
12. Combined SA (SEN-ALLOY) record/play heads
13. Pinch roller ass'y

Other mechanical parts are the same as location of model KD-A6:
Please refer to the service manual o KD-A6 A/B/C/E/J/U (No. 4179 — page 4).

Maintenance

To get long, trouble-free service, maintenance is important. Do not forget cleaning and demagnetizing.

Cleaning

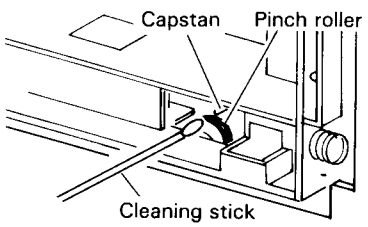
After long, the heads and tape part — capstan, pinch roller, etc. — will become dirty with dust or magnetize particles. Dirty heads cause imperfect erasing or high frequency drop-off. A dirty capstan and pinch roller will cause unstable tape speed, leading to increased wow and flutter. Always keep them clean by following the procedure below.

1. Heads

1) Push the EJECT button to open the cassette holder.
2) Push up the transparent cover to remove it.
3) Use the head cleaning stick to wipe the surface where the tape comes into contact with the head.
(It is effective to moisten the cotton with alcohol.)

2. Pinch roller and capstan

Close the cassette holder with its transparent cover removed. Press the tape detection pin inside the cassette compartment and set the deck in the playback mode. Insert the cleaning stick into the hole on the right side at the bottom of the cassette holder and clean the pinch roller and capstan.



3. Cleaning the cabinet and panel

Wipe the cabinet and panel clean with a soft cloth dipped in a neutral cleaner. Do not use thinner, benzine, alcohol or other strong solvents, as these will cause damage to the surface finish of the cabient and panel.

Demagnetizing

The heads are made from a material resistant to magnetization, but after long use they may become magnetized. A magnet brought into their vicinity can magnetize the heads, causing excess noise. If noise seems to have inceased, demagnetize the heads with a head demagnetizer through the following procedure.

1. Turn the POWER switch OFF.
2. Wrap the tip of the demagnetizer with vinyl tape of soft cloth so as not to damage the head surface. Switch on the demagnetizer and bring it close to the head.
3. Move the tip of the demagnetizer slowly first to the left and right, then up and down in front of the head. Gradually move it away from the head and switch it off at a distance of more than 30 cm (12").
4. The erase head need not be demagnetized. The capstan shaft and tape guide should be demagnetized in the same way as the record/playback head.

* Do not bring a magnetized metallic object (a screwdriver for example) near the head as this will increase noise.

Oiling

Feed one or two drops of machine oil to pinch roller shaft once or twice a year under normal conditions of use.
Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

New Technique

Combination SA heads for recording and playback (Fig. A)
Due to its high recording density, Metal Tape requires recording and playback heads that are made of materials having a greater maximum magnetic flux density than conventional ferrite or permalloy. The combined record/playback heads, newly developed for the KD-A77, both employ SA (Sen-Alloy) to ensure high performance.

The SA head has advantages over conventional heads in various fields such as fewer core loss, greater gap accuracy, better wear and corrosion resistance. However, its biggest feature is its high maximum magnetic flux density. Because of this, the SA head can bring the most out of the superior performance of Metal Tape. This is especially true for its extended frequency response at high frequencies; something that has never been possible to realize with usual cassette tapes.

The playback head incorporates a unique X-cut core structure to improve the characteristics of the low frequency range. With ordinary core configurations, playback output is subject to peaks and dips in the low frequency range as shown in Fig. B. This is called the "contour effect". :this effect is caused by interference between the length of the tape-to-head contact area and the wavelength of the recording frequency. With the X-cut design the core is cut diagonally to enable the tape to leave the head, not abruptly, but with a gradually lessening contact area.
The result is, as shown in the diagram, reduction of the contour effect. (Fig. C)

Configuration of record/playback combination SA heads

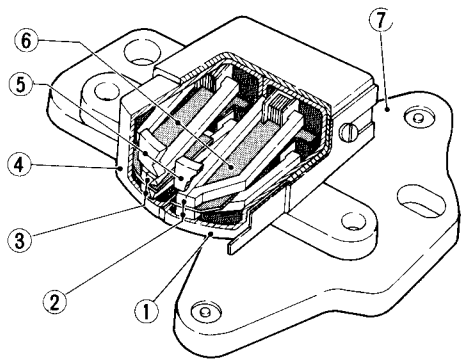


Fig. A

① SA recording head
② 4μm gaps
③ 1μm gaps
④ X-cut SA playback head
⑤ SA chips
⑥ Shield plate
⑦ Zinc die-casting head base

Comparison between characteristics of conventional cut core and X-cut core

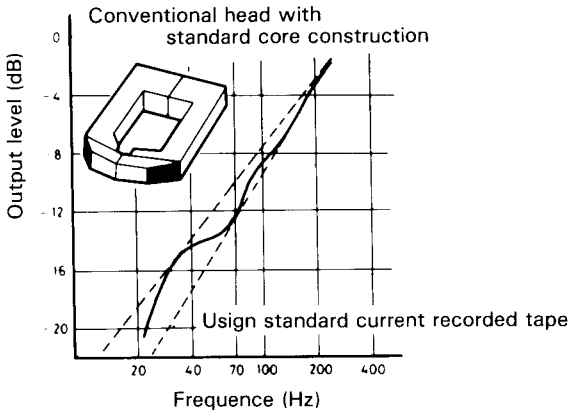


Fig. B

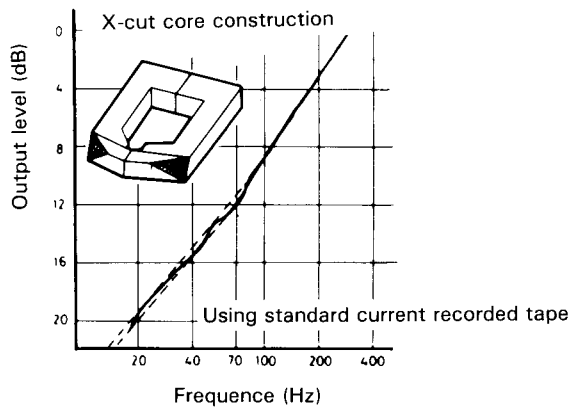
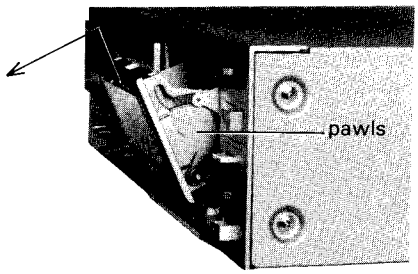


Fig. C

Note: SA (Sen-Alloy) is a trademark of JVC.

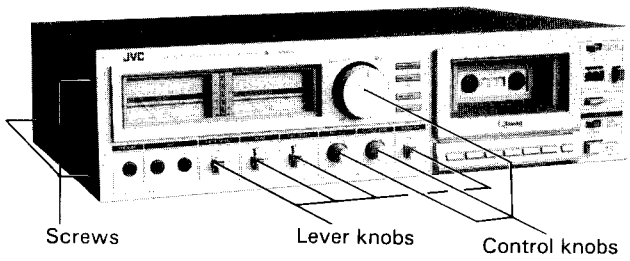
Removal of the Main Parts

This cassette deck which features a compact design and high performance uses miniature sized parts which are closely arranged.
Take special care when servicing it.

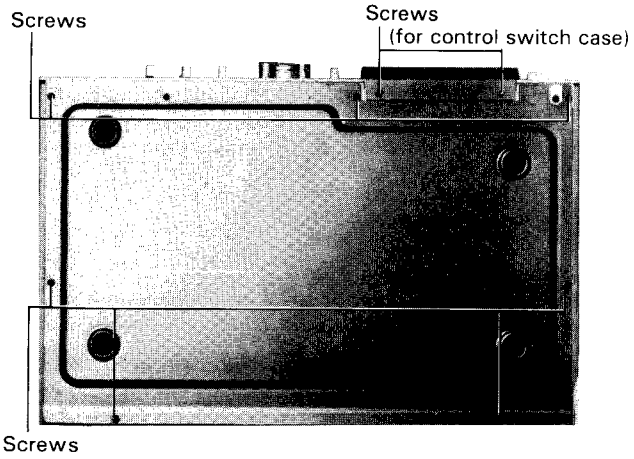


Enclosure assembly

1. Cassette door .....
   Push the EJECT button to open the cassette door. Slide it upwards (approx. 5 mm) to unlock its pawls, and remove it to frontward.

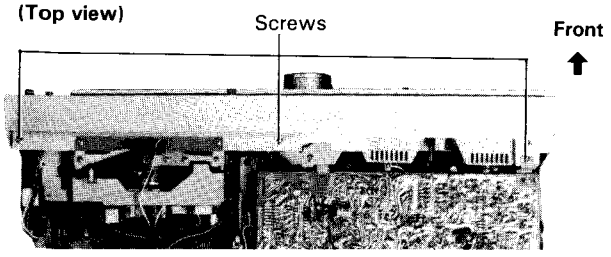


2. Lever knobs (INPUT SELECT, ANRS, TAPE SELECT, MONITOR) and level control knobs (INPUT LEVEL — L and R, OUTPUT LEVEL and REC EQ)
   Pull them to frontward
3. Top cover .....
   Remove 6 screws fastening the top cover.



4. Bottom cover
   Remove 7 screws fastening the bottom cover.

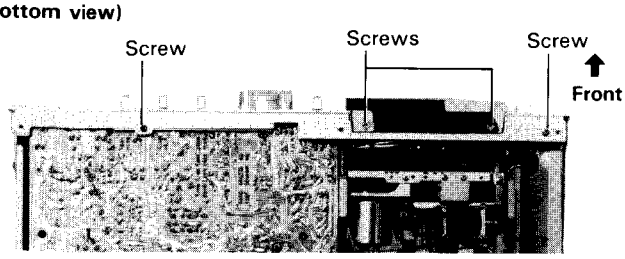
(Top view)



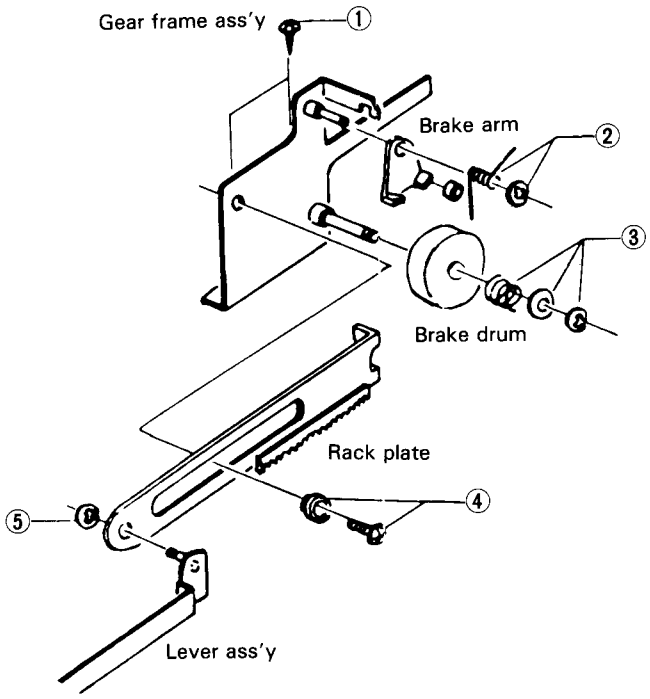
5. Front plate assembly
   1) Remove 5 screws (3 screws on upper side and 2 screws on bottom side) fastening the front plate assembly
   2) Remove TAPE & ANRS indicators wires socket.

   When adjusting or replacing REC/PB heads or Erase head .....
   1) Remove the wires of the control switches from the wire clamp and 2 wire sockets after having removed the top cover.
   2) Remove 2 screws positioned below the control switches (on the bottom of the deck) and pull the control section forwards — no need of removing the front panel assembly.

(Bottom view)

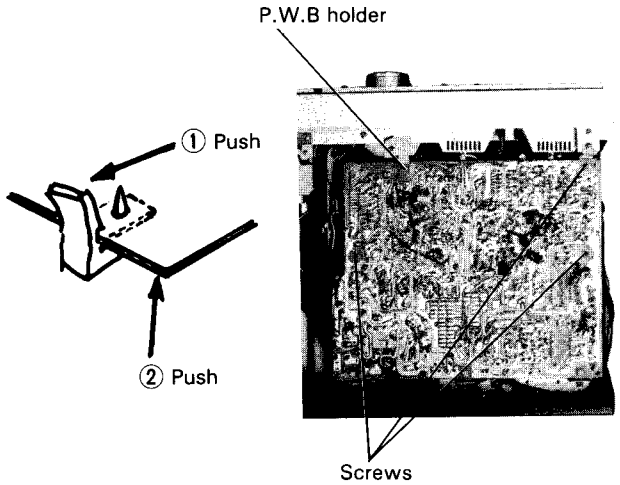


Caution
When assembling the control switch assembly to the front panel, do in the order of the numbers as below as not to damage the front panel.
1) Wrap the sharp edges of the front panel with vinyl tape, etc.
2) Insert the control switch assembly in the front panel.
3) Remove the vinyl tape.
4) Fasten 2 screws for the control switch assembly.



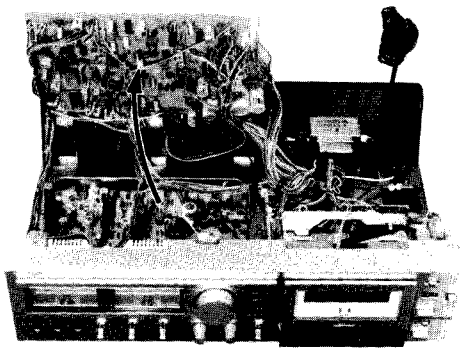
Door brake and its related parts

1. Gear frame ass'y ..... Remove 2 screws ①.
2. Brake arm and tire ..... Remove the E-ring and torsion spring ②.
3. Spur gear and brake drum ..... Remove the E-ring, and spring ③.
4. Rack plate ..... Remove the screw and the collar ④.
5. Brake lever ass'y ..... Remove the E-ring ⑤.

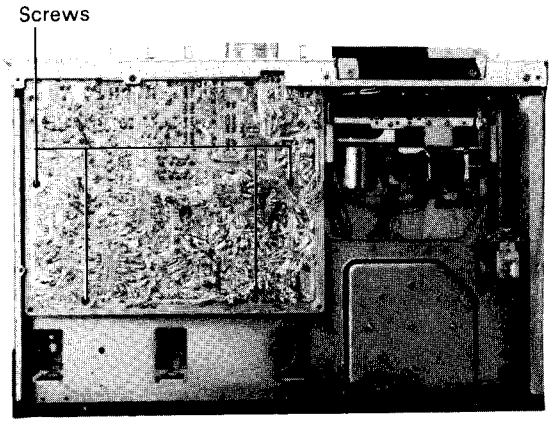


Electrical parts

1. Power supply P.W.B. parts assembly.

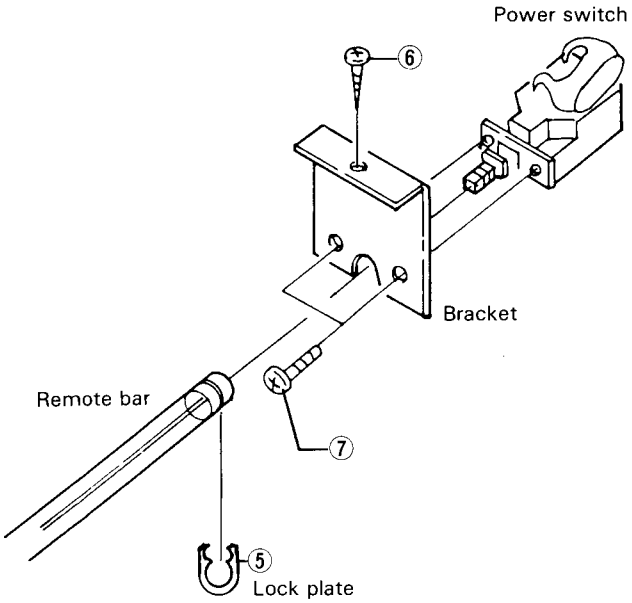


1) Remove a pawls of P.W.B. holder in the order of the numbers in the illustration arrow mark.
2) Remove 3 screws fastening the P.W. Board.
3) Open the P.W.B to upper side.



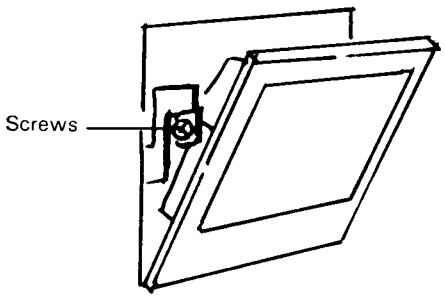
(Bottom view)

2. Main amp P.W.B parts assembly
   1) Remove 4 screws fastening the main amp. P.W. Board (on the bottom side).
   2) Remove 4 screws fastening the lever switches on the front bracket.
   3) Remove 5 washers and 5 nuts fastening the PHONES, MIC-L, MIC-R jacks and REC EQ, OUTPUT LEVEL control shafts.



3. Power switch
   1) Remove the lock plate ⑤ holding the remote bar.
   2) Remove a screw ⑥ fastening the power switch bracket.
   3) Remote 2 screws ⑦ fastening the power switch.

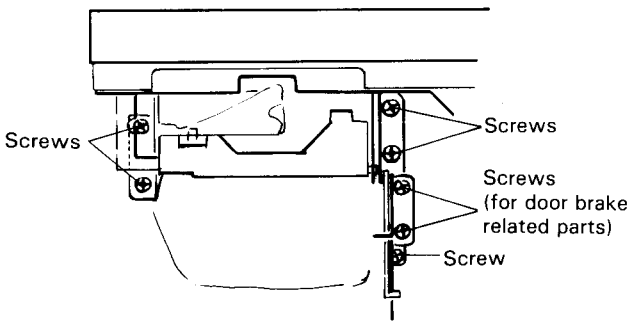
4. Power transformer
   Remove the 2 screws and 2 washers fastening the power transformer.



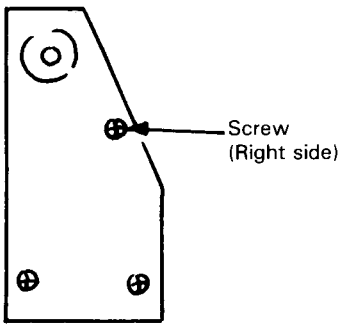
Removal of the mechanical assembly

1. Remove a screw fastening the arm of gear-oil damper (Left side of the cassette holder), and Remove 2 screws fastening the gear frame ass'y to Remove door brake related parts.

(Top view)

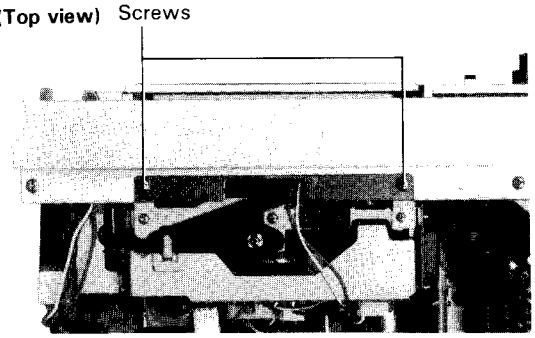


2. Remove 5 screws fastening the mechanical bracket to the amp. chassis (Right — 2 p.c.s, Left — 3 p.c.s).



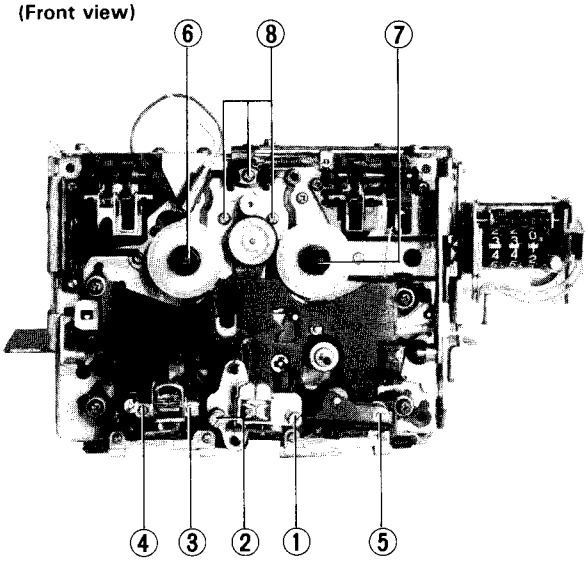
3. Remove a screw fastening the counter bracket to the front bracket.

(Top view) Screws



4. Remove 2 screws fastening the joint bracket to the front panel (upper side).

(Front view)

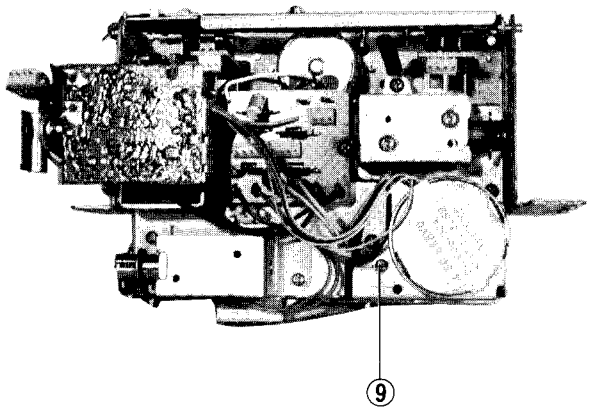


Removal of the mechanical parts

1. REC/PB head .....
   Remove the screw ① for head adjustment.
   Remove the screw ②.
2. Erase head .....
   Remove the screw ③.
   Remove the screw ④.
3. Pinch roller arm ass'y ..... Remove the E-ring ⑤.
4. Supply reel disc ..... Pull out the reel stopper ⑥.
5. Take-up disc ..... Pull out the reel stopper ⑦.
   Remove the counter belt.

   Note:
   1) Remove the reel disc stoppers with a piece of sheet metal inserted between the reel disc and the stopper.
   2) Be careful not to stain the counter belt.
6. Reel motor ..... Remove the 3 screws ⑧ fastening the reel motor.

(Rear view)



7. Capstan motor .....
   1) Remove the screw ⑨ fastening the rubber stopper.
   2) Remove its motor belt.
   3) Turn the motor counter clockwise and pull it for removal.

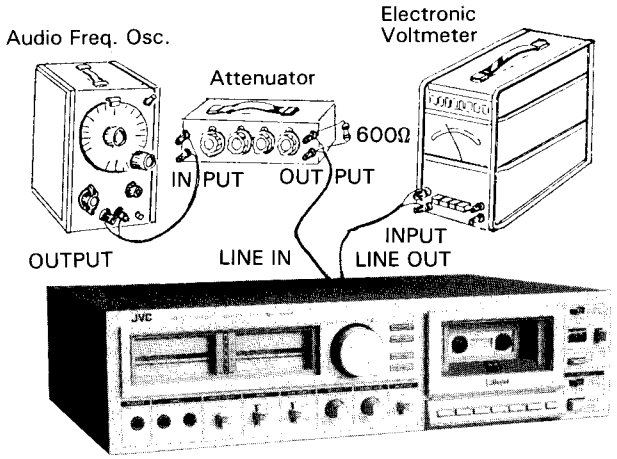
Note:
When replacing the motor, check the following items.
1) Is the motor placed in the correct position?
   (Don't deflect the motor at mounting it.)
2) Does the capstan belt run in the center of the motor pulley?
3) Does the capstan belt run in the center of the flywheel?

Main Adjustments

[I] Equipment and measuring instruments used for adjustment

1. Electrical adjustment

1) Electronic voltmeter
2) Audio frequency oscillator
   (range; 50 — 20kHz and output 0dB with impedance 600Ω)
3) Attenuator
4) Standard tapes for REC/PB
   Maxell UD — SF tape (for normal)
   TDK SA — SA tape (for CrO_2) } or equivalent
   SCOTCH METAFINE — Metal tape
5) Reference tapes for playback (JVC Test Tape)
   VTT-658 (for head azimuth adj.)
   VTT-656 (for motor speed, wow flutter adj.)
   VTT-664 (for Reference level 1kHz)
   TMT-6002N (for playback frequency response)
6) Resistors
   100Ω (for measurement of the bias current)
   600Ω (for attenuator matching)



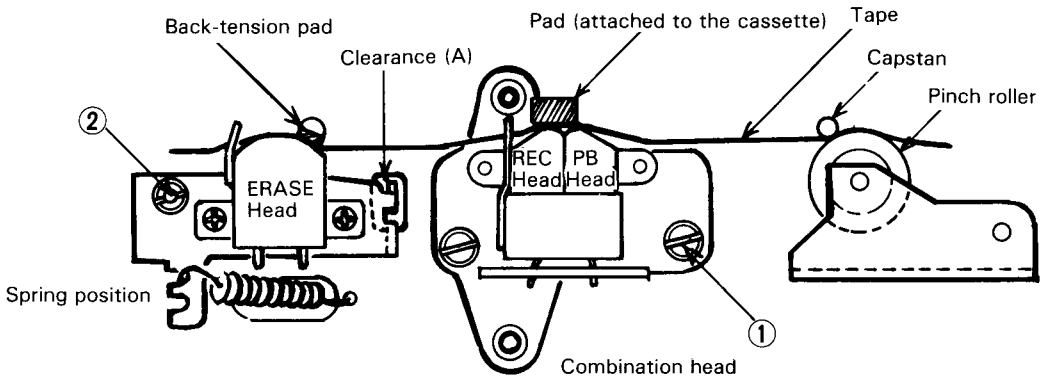
KD-A77

2. Mechanical adjustment

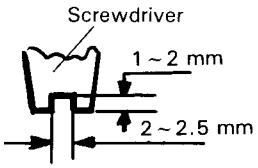
1) Gauge for checking the head position.
2) Torque gauge.
3) Blank tape (C-120) for tape running checker.

[II] Mechanical adjustment

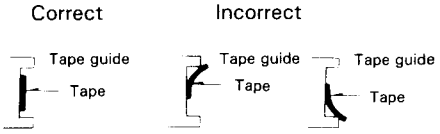
Head adjustment



1. After installing the specified parts in the appropriate positions:
   A. Snug screw ① gently, then back off about two turns. This makes the heads nearly horizontal.
   B. Snug screw ② gently, then back off about one turn. This will roughly position the tape in the center of the tape path.
   For tightening screw ②, use a home make screwdriver, filed down to the specifications shown below. The same screwdriver can be used to tighten screw (1).



2. Make sure that the moving part of the erase head assembly moves smoothly around the pivot of screw ② and also confirm that there is enough clearance (A) in the play mode.
3. Next, make an operational adjustment. Load a C-120 cassette and adjust the height of the erase head by turning screw ②. Watching that the tape does not curl at the guides of both the combination and erase heads is indication of proper adjustment.



Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting motor speed	Connect a speed meter to the LINE OUT terminals. Play back the VTT-656 test tape. Adjust the semi-fixed resistor on the motor P.W. board until the reading of the speed meter is 3000Hz.	Semi-fixed resistor on the motor P.W. board	3000Hz	If the speed meter functions as a wow and flutter meter, also, connect the deck to the INPUT terminals of the meter.
Checking play-back torque	Employ a torque testing cassette tape for the checking, or remove the cassette cover and use a torque gauge.		40—70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 70 gr-cm	If the standard torque is not obtained, perform the following. 1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference, etc. 2. Replace the belt and idler.
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 70 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference, etc.
Checking wow and flutter	Connect a wow and flutter meter to the LINE OUT terminals. Play back the VTT-656 test tape. Check to see if the reading of the meter is within 0.04% (WRMS).			If the reading becomes moving value even if conforming to the standard, a re-claim may be raised. Repairs are necessary.

[III] Repair of wow flutter

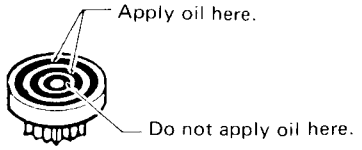
If wow and flutter increase, check the following points. If there is defect in revolving parts, the wow and flutter generated will increase in proportion to the number of revolutions.

Play a 3000Hz test tape, and defective part can be detected from the sound.

Section	Trouble	Repair
Capstan and flywheel	Capstan shaft has excessive run-out Flywheel turns heavily. (shaft seisure, thrust play, etc.)	Replace flywheel. Clean the capstan shaft and the groove in the flywheel. Apply oil to the metal position. Replace the capstan assembly.
Pinch roller	Rough rotation (Deformation scratches, or dust) The angular position of the pinch roller is not correct. The pinch roller pressure is not correct.	Replace pinch roller, or pinch roller spring. Clean the pinch roller or apply oil to the rotary shaft. Adjust the pinch roller so that it is parallel with the capstan shaft. Replace the pinch roller spring.
Belt	Belt has undue run-out. Belt is dirty or slippery.	Clean the belt. Replace the belt.
Back tension	Back tension is irregular, or back tension is too strong.	Replace back tension spring (under supply disc).
Motor	Motor shaft has undue run-out. Motor pulley is oily and dusty.	Replace motor. Clean motor pulley.

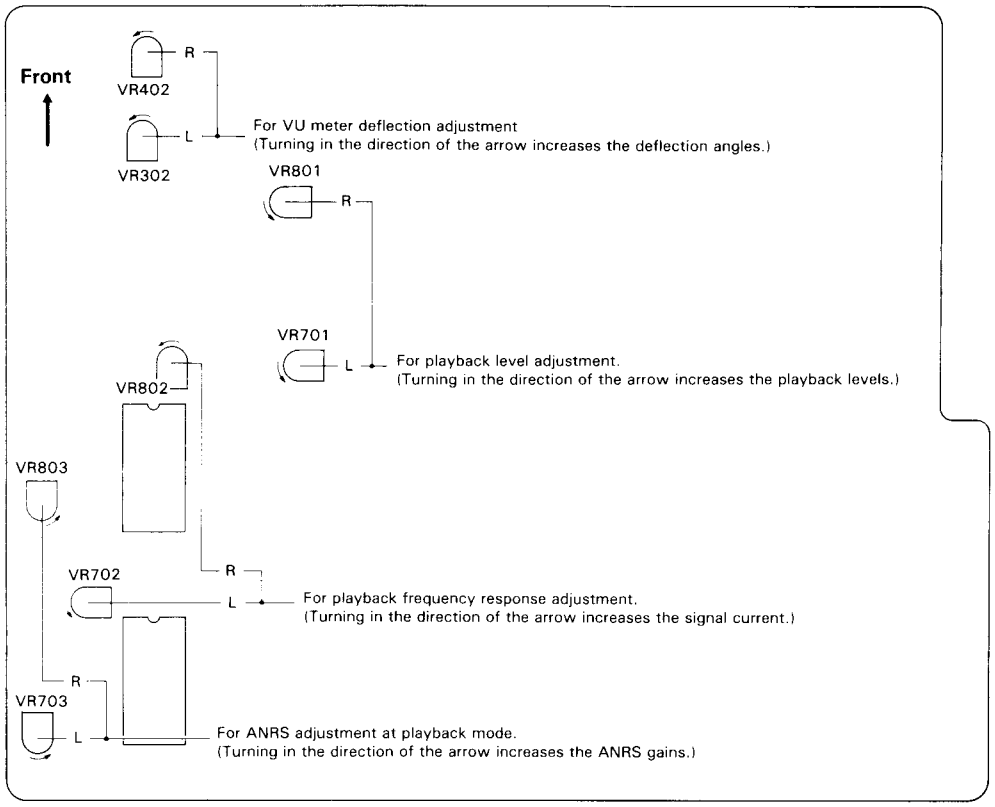
Damping gear oil

Oil employed — Torque grease specified by JVC (KANTO KASEI GP-608)
Applying method — Apply in both concaved sections as shown in the figure.

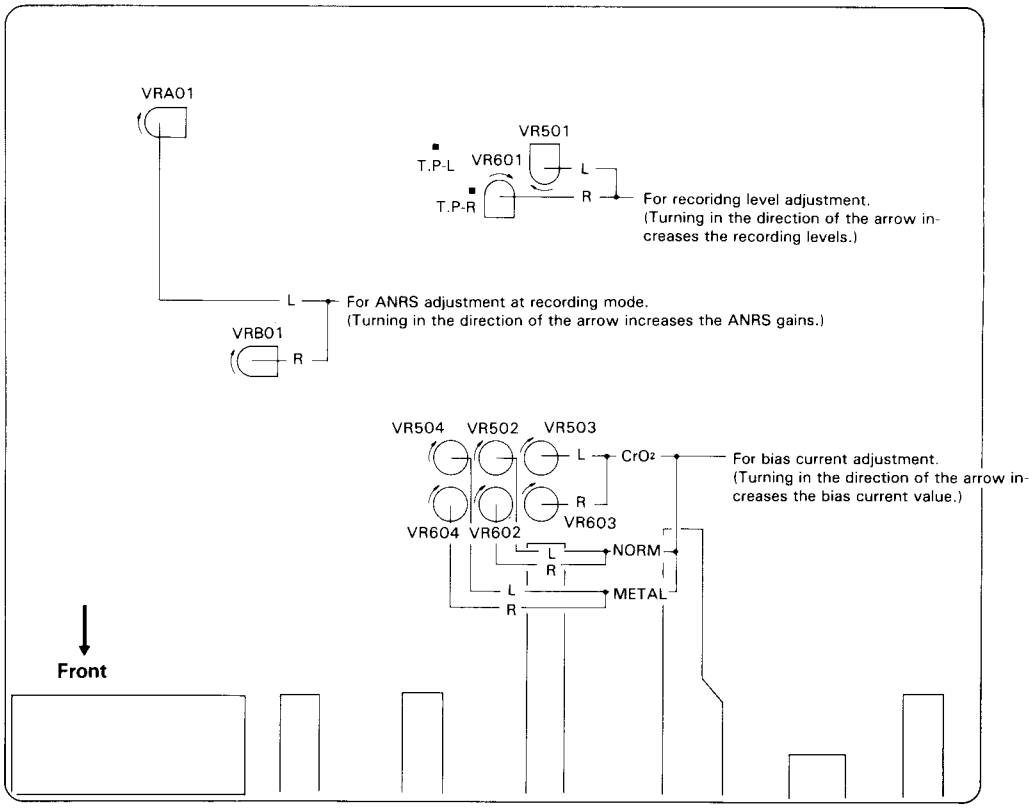


[IV] Adjustment Location of Electrical Circuit

Power Supply P.W. Board

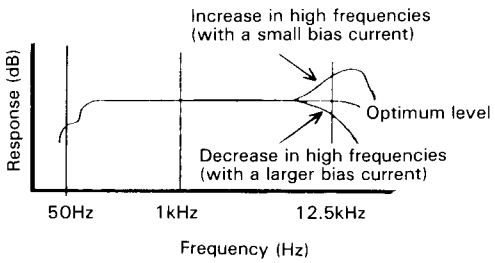


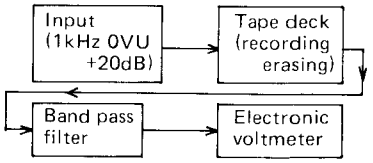
Main P.W Board

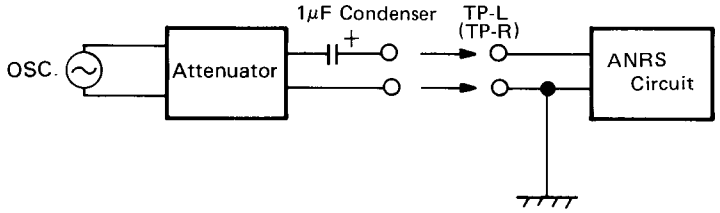


[V] Electrical circuit adjustment procedure

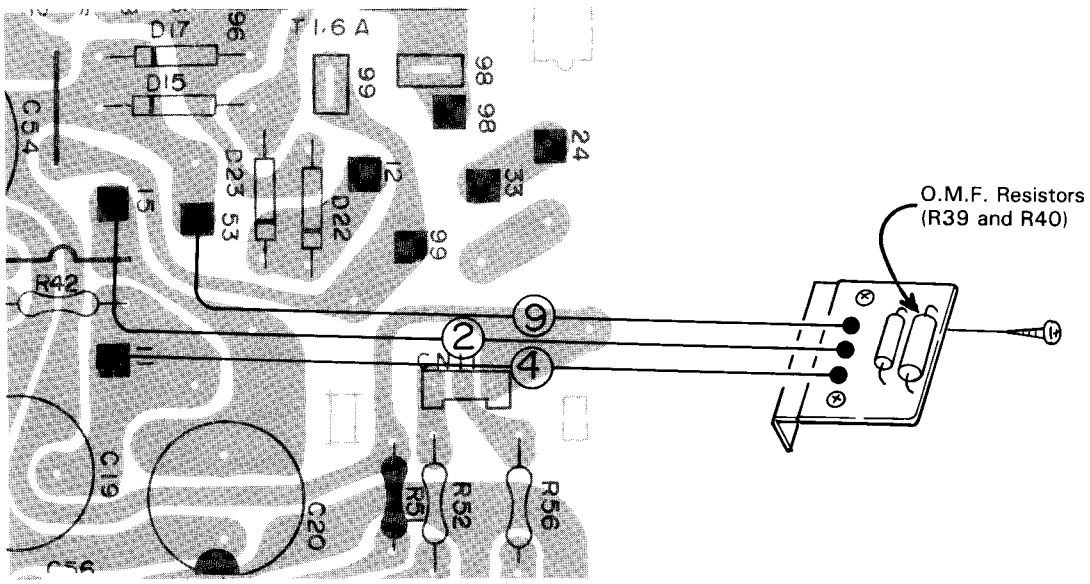
In the steps marked by an asterisk (*), adjustment should be performed, however, only checking is sufficient with steps other than those.
Adjustment should be performed in the order of steps 1, 2, 3 .....
Perform these adjustments with the ANRS switch set to OFF and with the OUTPUT level control set max.

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
1*	Adjusting playback level	1. Play back the VTT-664 Reference tape (1kHz) with Tape select switch set to the NORMAL position. 2. Adjust VR701 and VR801 until the LINE OUT becomes about −8dBs.	VR701 801	−8dBs (0.3V)	This adjustment becomes necessary when a change in playback level results (for example, due to head replacement).
2*	Adjusting playback frequency response	Play back test tape, TMT-6002N for following againstment. 1) Adjust VR702, 802 so that 10kHz signal and 1kHz signal gains become flat response.	VR702 802	Reference frequency; 1kHz 0 ± 2dB at 10kHz	
3*	Adjusting VU meter sensitivity	1 .Set the cassette deck to its source mode. 2 .Apply a 1kHz, approx. −10dBs signal to the LINE IN terminals. 3. Adjust the recording level controls until the signal is available at −8dBs at the LINE OUT terminals. 4. Adjust VR302 and VR402 until the VU meters deflect to 0.	VR302 402	0VU	Perform the adjustment when the parts are replaced.
4*	Adjustment record/ playback frequency response	Record 1kHz, 50Hz and 12.5kHz signals at an input level of 0VU −20dB. Play back the tape. Check to see that the 50Hz and 12.5kHz signal output deviations fall within the standard range, using the 1kHz signal output as a reference. (It is basically desirable that the 1kHz, 50Hz and 12.5KHz signal outputs are the same. Adjust VR502 amd VR602 (for a normal tape), VR503 and VR603 (for a chrome tape), VR504 and VR604 (for a metal tape) until the indicated deviation of the 12.5kHz signal output from the 1kHz signal output becomes 0.	For normal tape: VR502 602 For chrome tape: VR503 603 For Metal tape: VR504 604	Reference frequency; 1kHz 0 ± 3dB at 50Hz 0 ± 3dB at 12.5kHz	1. Bias current adjustment for a cassette deck should generally be performed referring to the record/playback frequency response. This is because the frequency response of a cassette deck depends more greatly upon the bias current than does that of an open reel deck. The current measuring method described below is an alternative one. 2. If the bias current is not properly adjusted, the record and playback characteristics become as shown below. 

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
5	Adjusting recording level	1. Apply a 1kHz, approx. −10dBs signal to the LINE IN terminals. Adjust the recording level controls until the signal is available at −8dBs at the LINE OUT terminals. 2. After checking to see if the VU meters point to 0, record the signal applied to both left and right channels using a normal tape. 3. Play back the recorded part. Perform the recording signal adjustment with VR501 and VR601 so that the VU meters deflect to 0.	VR501 601	0 VU	The level difference between left and right channels for normal tape, chrome tape and metal tape should be less than 1dB (1VU). Perform the adjustment using a normal tape, level difference between recording and playback for CrO_2 and metal tapes should be less than 1.5dB, and that between left and right channels should also be less than 1dB.
6	Checking record/ playback signal distortion	1. Record a 1kHz signal so that OUTPUT level become −8dBs and VU meters deflect to 0. 2. Play back the recorded part. Check the output with a distortion meter to see if the value conforms to the standard value.	Normal tape: Less than 2.5% CrO_2 tape: Less than 3% Metal tape Less than 2%		Be sure to perform this adjustment following bias current and recording level adjustments.
7	Checking signal to noise ratio in recording/playback	1. Record a 1kHz, 0VU signal. Stop the input by disconnecting from the terminal to perform non-signal recording. 2. Play back the recorded part. Measure the 0VU recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value.	Normal tape: More than 42dB Chrome tape: More than 42dB		Apply an output (−72dBs) to the MIC terminals with the recording level controls set to maximum so that the VU meters deflect to 0.
8	Checking erasing coefficient	1. Apply a 1kHz signal to the LINE IN terminals. Adjust the recording level controls until the VU meters deflect to 0. 2. Perform recording with the signal enhanced by 20dB. 3. Erase a part of the recording. 4. Measure the output difference between the erased part and non-erased part to compare with an electronic voltmeter.	More than 65dB		For the measuring, connect a band pass filter between the deck and the electronic voltmeter.  Used test tape; Metal tape
9	**Adjustment the Super ANRS circuit** **(Super ANRS circuit for recording mode)** 1. Remove the bias-cut connector on the main P.W. board to stop the bias oscillation. 2. Fully turn the semi-fixed resistors VRA01, B01 in the opposite direction of the arrow shown on the P.W. board. (If they have been roughly adjusted, there is no need to turn them.) 3. Set the MONITOR switch of the deck to SOURCE position with ANRS switch set to OFF. 4. Apply a 1kHz, −10dBs signal to the LINE IN terminals. Adjust the INPUT LEVEL control until the output at test points, TP-L and TP-R are −5.5dBs. (Be sure not to move the INPUT LEVEL control positions during this adjustment.) and then the OUTPUT level is approx. −5dBs. (Corresponding to +3VU on the VU meters.) 5. Decrease the input signal to 40dB (its signal become −50dBs) with an attenuator. (The output at the test point is −45.5dB.) 6. Adjust the VRA01 (for left channel) and the VRB01 (for right channel) with ANRS switch set to ON until the outputs at the test points are −39.8dBs. (The output difference is 5.7dB with ANRS switch set to ON from OFF.) 7. Check to see if the output at test points is −22dB ± 1dB with the input 5kHz, −30dBs signal. (Its signal adjust to 20dB with an attenuator.) (The output difference with ANRS switch set to ON from OFF is 3.5dB ± 1dB)			

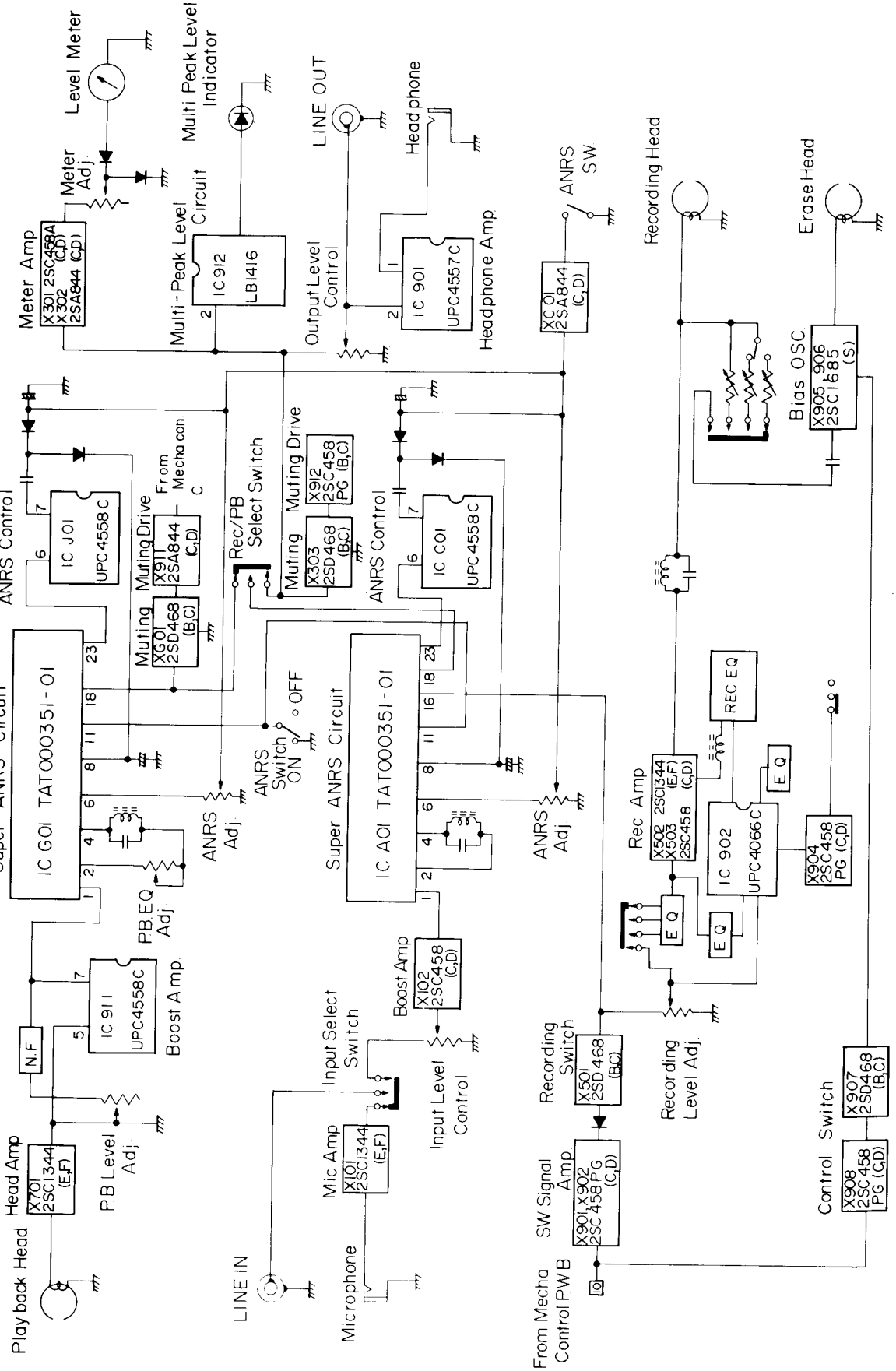
Step	Adjustment
	8. Check to see if the test point output difference between that with ANRS switch set to ON and that set to OFF is less than ±0.5dB, with the input a 1kHz, −10dBs signal. (its signal adjust to 20dB with an attenuator.) 9. Set ANRS switch to SUPER from OFF when input 10kHz signal to LINE IN. Check LINE OUT level so that it become from −5.5dBs to −11.5dBs ±1dB. **(Super ANRS circuit for playback mode)** 10. Apply the Oscillation signal with connecting a condenser (1μF) to test points TP-L and TP-R for playback mode.  11. Fully turn the semi-fixed resistors VR703, 803 in the direction of the arrow shown on the P.W. board. (If they have been roughly adjusted, there is no need to turn them.) 12. Set the deck to playback mode with ANRS switch set to OFF. (Use the non-tape cassette.) 13. Apply a 1kHz signal to the LINE IN terminals. Adjust an attenuator until the LINE OUT levels become −5dBs. (This level is caliblation point.) 14. Adjust the input signal to 34.3dB with an attenuator, and then LINE OUT level become −39.3dBs. 15. Adjust the VR703 (for left channel) and the VR803 (for right channel) with ANRS switch set to ON until the LINE OUT levels become −45dBs. (The output difference is 5.7dB with ANRS swith to ON from OFF.) 16. Apply 5kHz signal with the ANRS switch set to OFF. Adjust an attenuator so that LINE OUT level become −21.5dB. 17. Check to see if the LINE OUT level is −25dBs ±1dB with ANRS switch set to ON from OFF. 18. Apply 1kHz signal of caliblation level with the ANRS switch set to ON from OFF, check to see if the LINE OUT level is less than −5dBs ±0.5dB. 19. Set the ANRS switch to SUPER, apply 10kHz signal to the LINE IN terminals. Adjust an attenuator so that LINE OUT level become check to see if the LINE OUT level is −5dB ±1dB with ANRS switch set to OFF. 20. Play back the reference tape VTT-664 and check output level so that it less than ±1dB when ANRS switch set to ON from OFF. 21. To operate the bias oscillation, insert +B wire connector of the bias circuit.

Wiring Supplementary (refer to page 21 and 22)

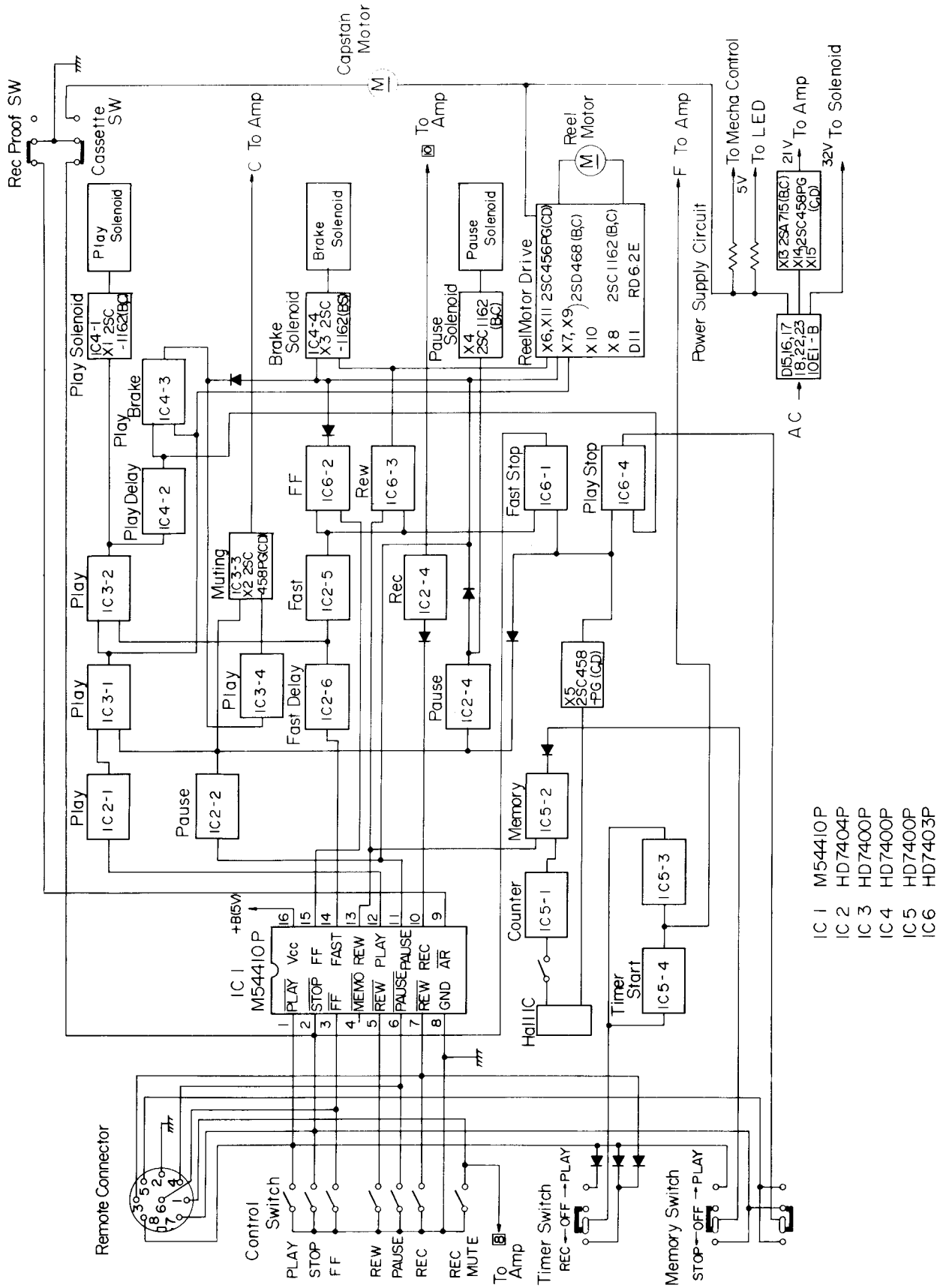


Block Diagram

Amplifier circuit



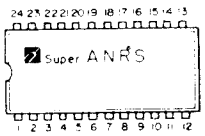
Mechanical control circuit



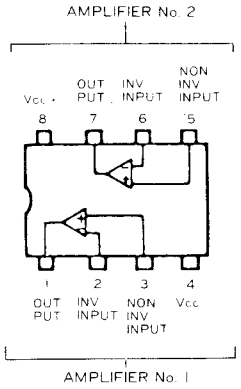
Integrant Circuit

IC A01, B01 TAT000351-01 Super ANRS cirucit
G01, H01

(Top view)

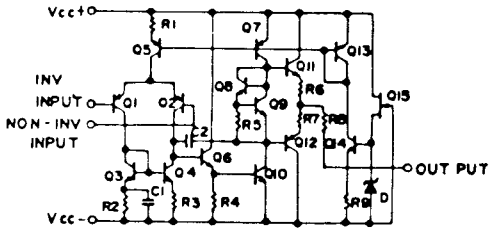


(Top view)



IC C01 J01 UPC4558C ANRS control amp. circuit

Equivalent circuit (1/2)

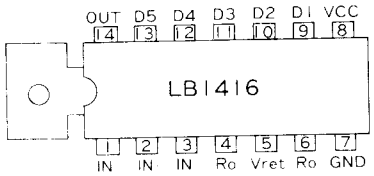


IC901 UPC4557C Headpone amp.
Top view is the same as UPC4558C.

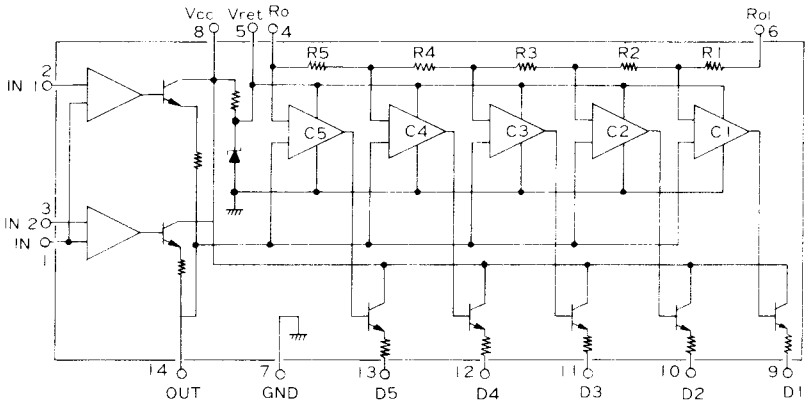
Equivalent circuit is the same as UPC4558C except R8 only.

IC903 LB1416 Multi-peak level circuit

(Top view)



Equivalent circuit

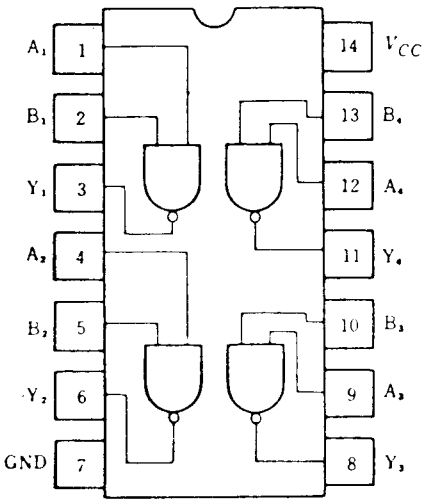


(Mecha. control)

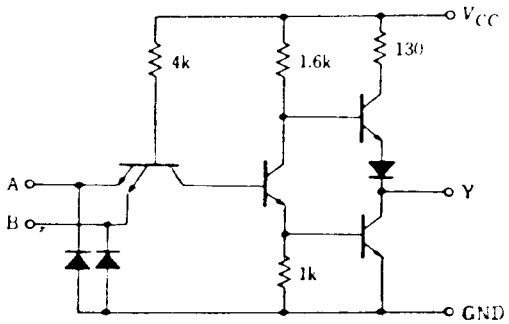
IC1 M54410P See the service manual of KD-85A/B/C/E/J/U (No. 4165 — page 7).

IC3,4,5 HP7400P

(Top view)



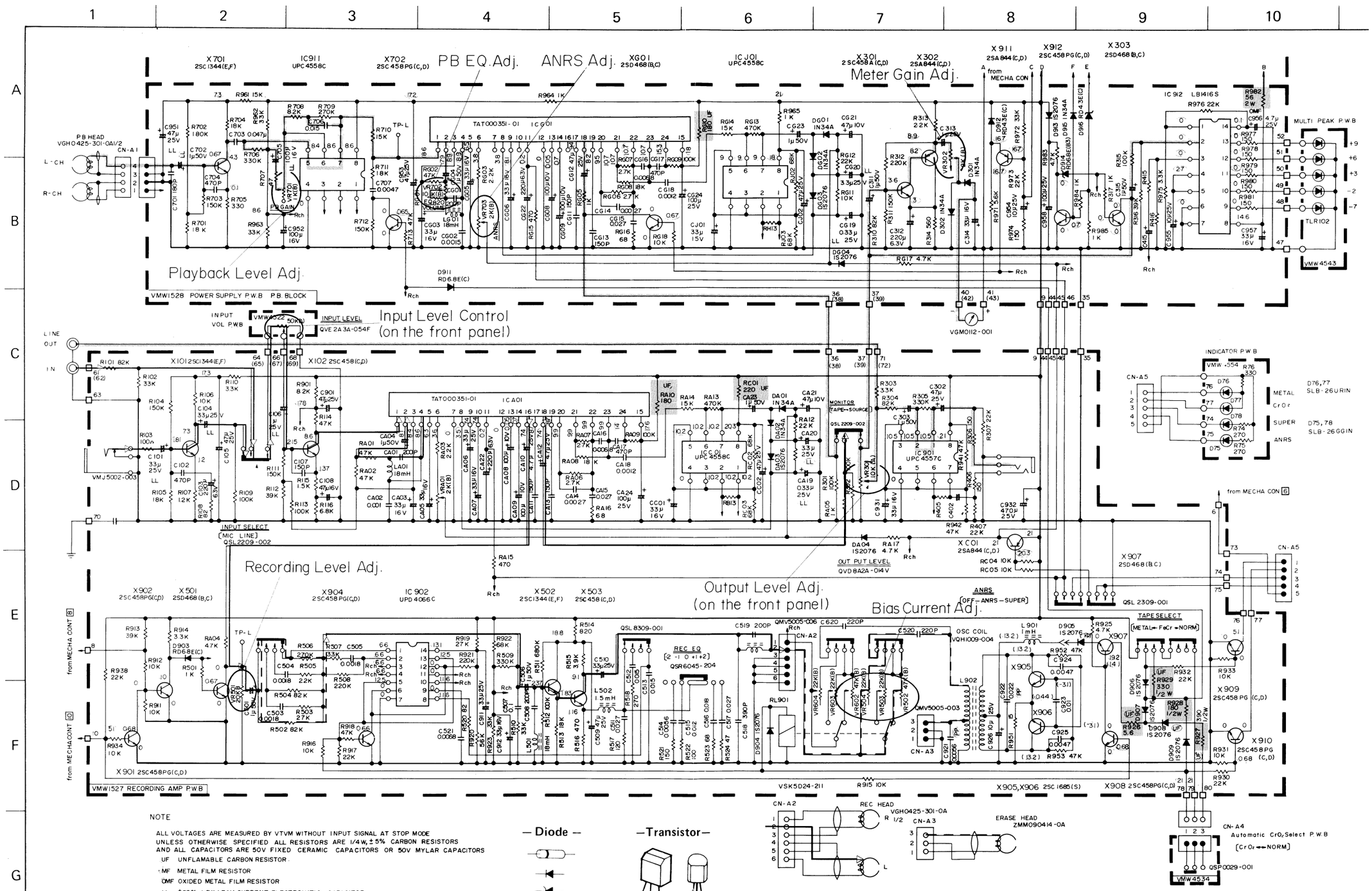
Equivalent circuit (1/4)



IC2 HD7404P
IC6 HD7403P

See the service manual of KD-A7 A/B/C/E/J/U (No. 4185 — page 17)

Standard Schematic Diagram of KD-A77 (Amplifier circuit)



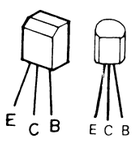
NOTE

ALL VOLTAGES ARE MEASURED BY VTVM WITHOUT INPUT SIGNAL AT STOP MODE
UNLESS OTHERWISE SPECIFIED ALL RESISTORS ARE 1/4W, ± 5% CARBON RESISTORS
AND ALL CAPACITORS ARE 50V FIXED CERAMIC CAPACITORS OR 50V MYLAR CAPACITORS

- UF UNFLAMABLE CARBON RESISTOR
- MF METAL FILM RESISTOR
- OMF OXIDED METAL FILM RESISTOR
- LL ±20% LOW LEAK CURRENT ELECTROLYTIC CAPACITOR
- PP POLYPROPYLENE CAPACITOR
- LN LOW NOISE CARBON RESISTOR
- PS POLYSTYRENE CAPACITOR
- Ta TANTALUM SOLID ELECTROLYTIC CAPACITOR

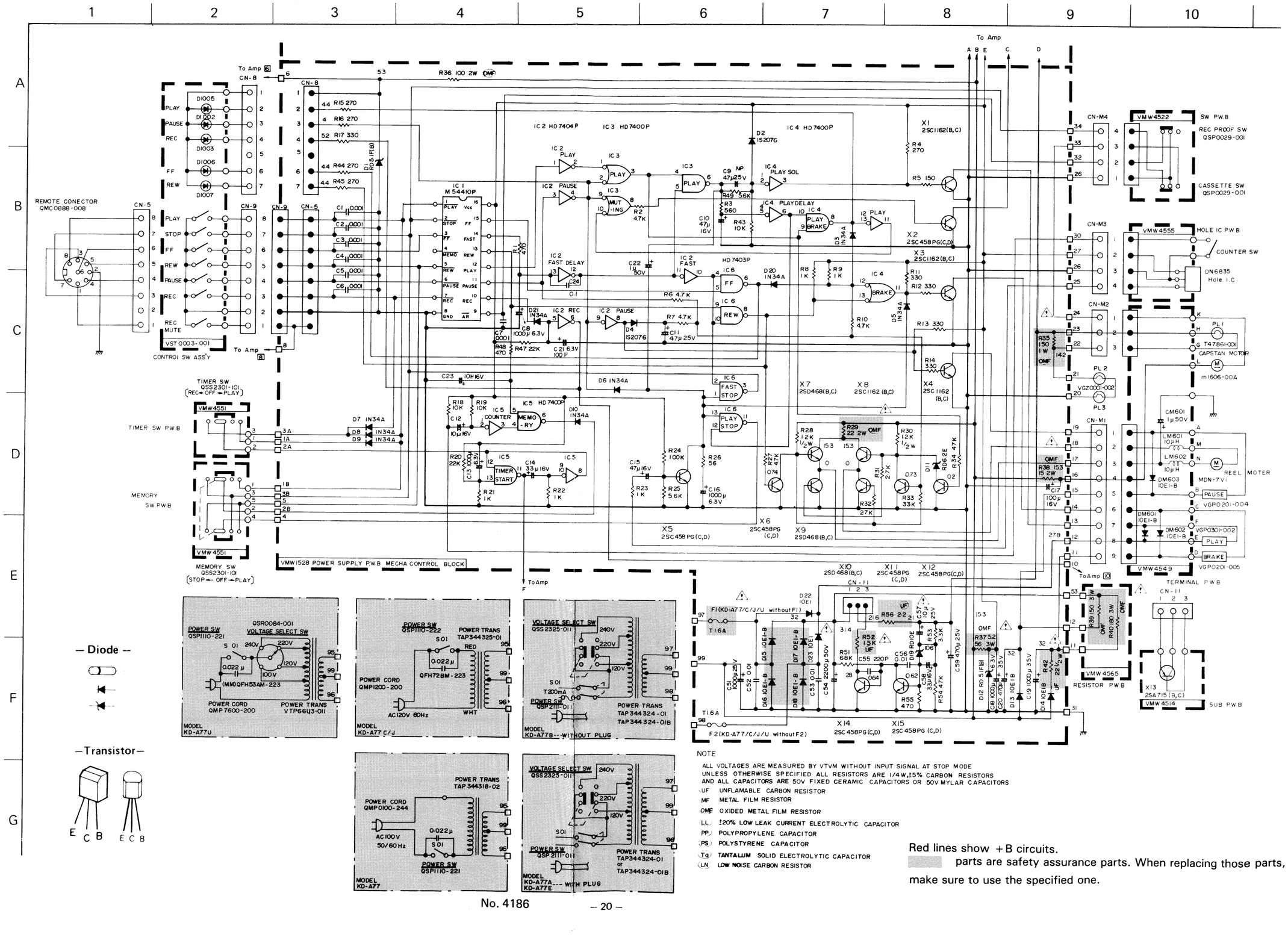
— Diode —

—Transistor—



Blue line shows the signal at playback.
Red line shows the signal at recording and +B circuits.
parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

Standard Schematic Diagram of KD-A77 (Mecha. control circuit)



NOTE

ALL VOLTAGES ARE MEASURED BY VTVM WITHOUT INPUT SIGNAL AT STOP MODE
UNLESS OTHERWISE SPECIFIED ALL RESISTORS ARE 1/4W,±5% CARBON RESISTORS
AND ALL CAPACITORS ARE 50V FIXED CERAMIC CAPACITORS OR 50V MYLAR CAPACITORS

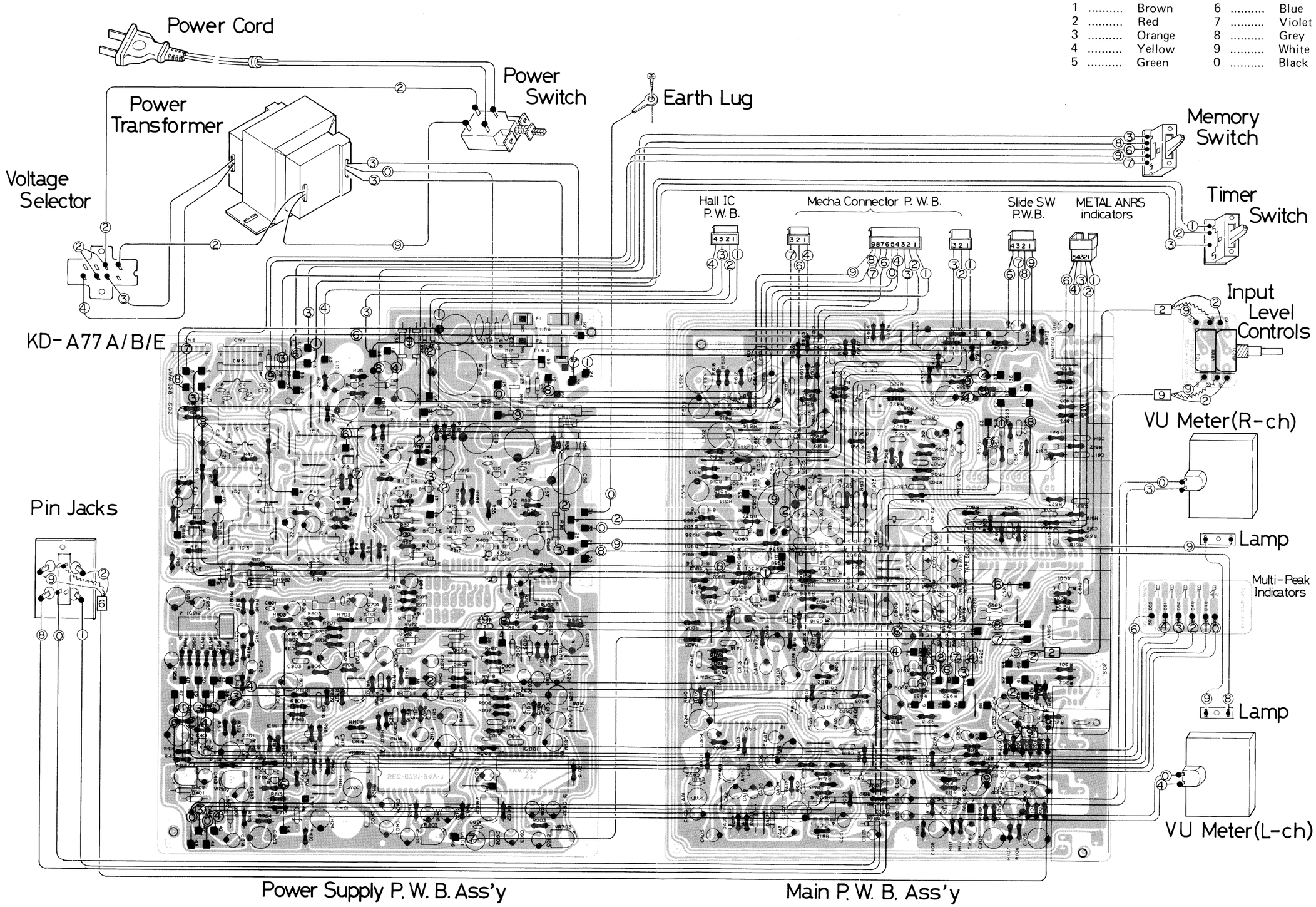
(UF) UNFLAMABLE CARBON RESISTOR
(MF) METAL FILM RESISTOR
(OMF) OXIDED METAL FILM RESISTOR
(LL) ±20% LOW LEAK CURRENT ELECTROLYTIC CAPACITOR
(PP) POLYPROPYLENE CAPACITOR
(PS) POLYSTYRENE CAPACITOR
(Ta) TANTALUM SOLID ELECTROLYTIC CAPACITOR
(LN) LOW NOISE CARBON RESISTOR

Red lines show +B circuits.
parts are safety assurance parts. When replacing those parts, make sure to use the specified one.

Wiring Connection (1) of KD-A77

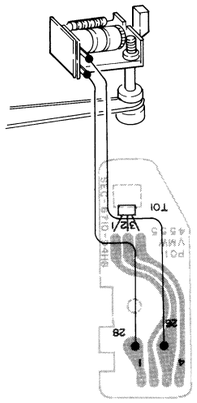
Color code are shown below

1	.....	Brown	6	.....	Blue
2	.....	Red	7	.....	Violet
3	.....	Orange	8	.....	Grey
4	.....	Yellow	9	.....	White
5	.....	Green	0	.....	Black



Wiring Connection (2) of KD-A77

Counter



Hall IC
P. W. B.

Capstan Motor

Motor P.W.B.

Pause Solenoid

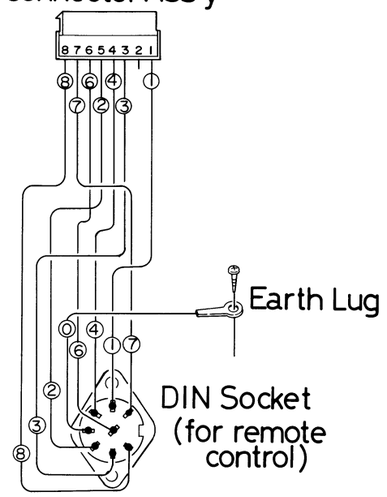
Play Solenoid

Brake Solenoid

Reel Motor

Back Light
(for amount indicator)

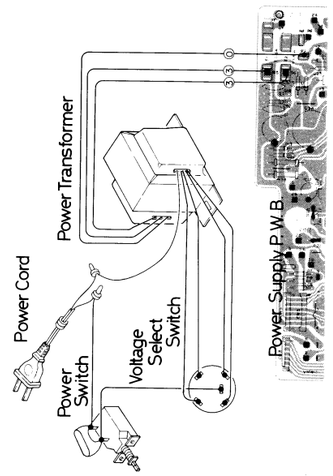
Connector Ass'y



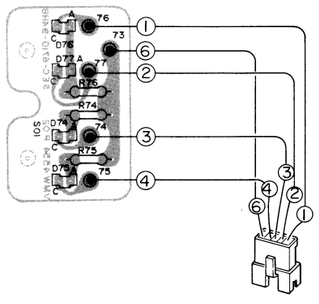
Earth Lug

DIN Socket
(for remote control)

KD-A77 U

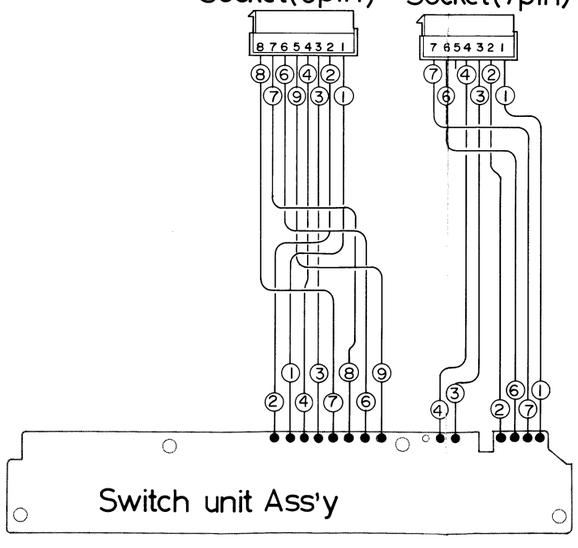


LED Indicators



Socket
(5pin)

Socket(8pin) Socket(7pin)

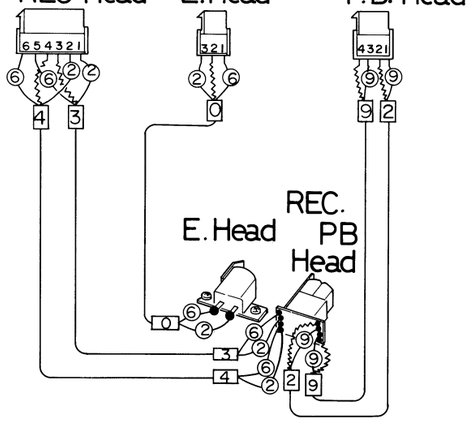


Switch unit Ass'y

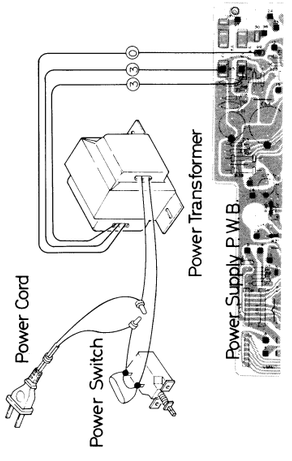
for REC Head

for E.Head

for P.B. Head



KD-A77 C/J



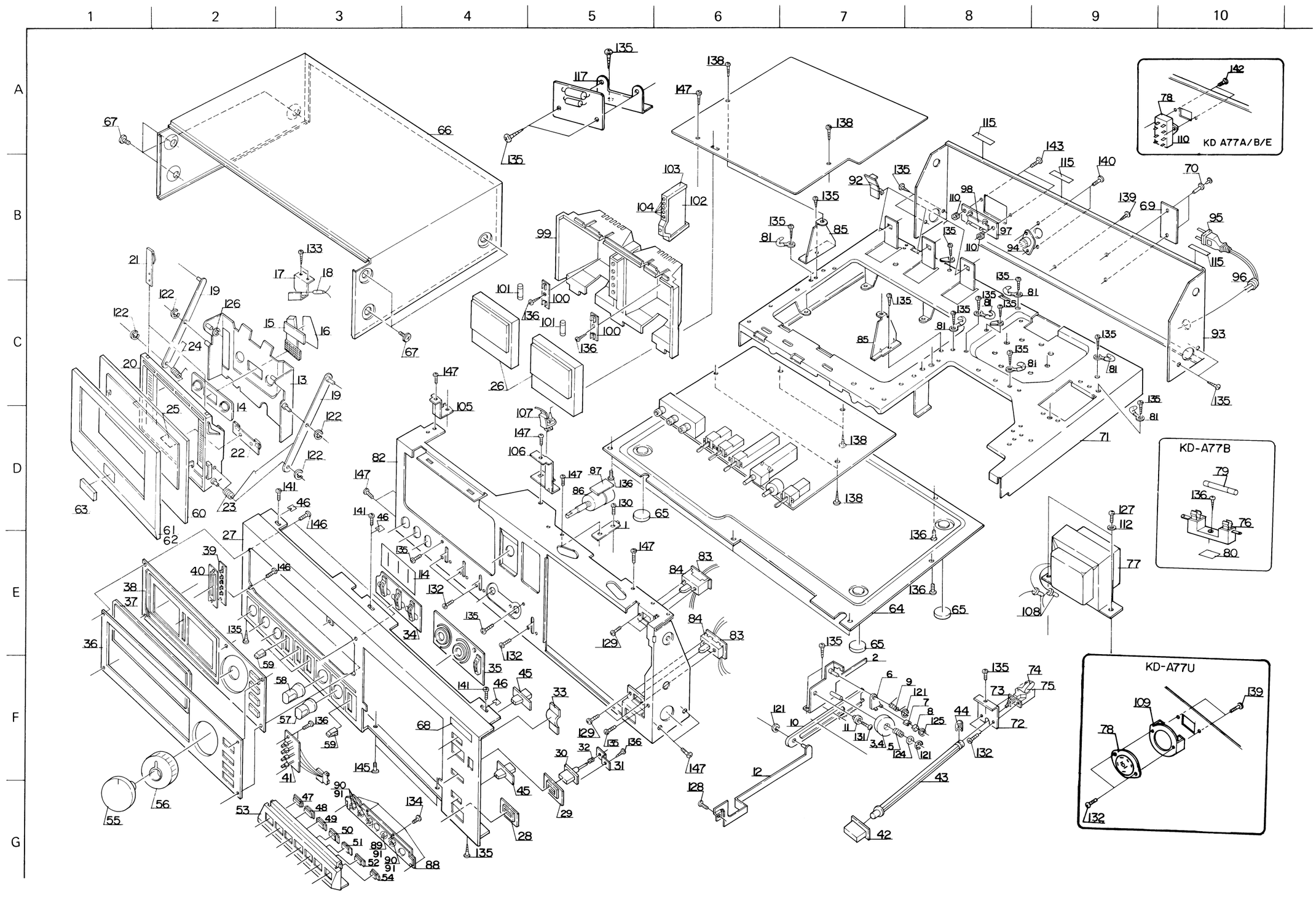
Enclosure Ass'y and Electrical Parts List (except P.W. Board Parts)

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

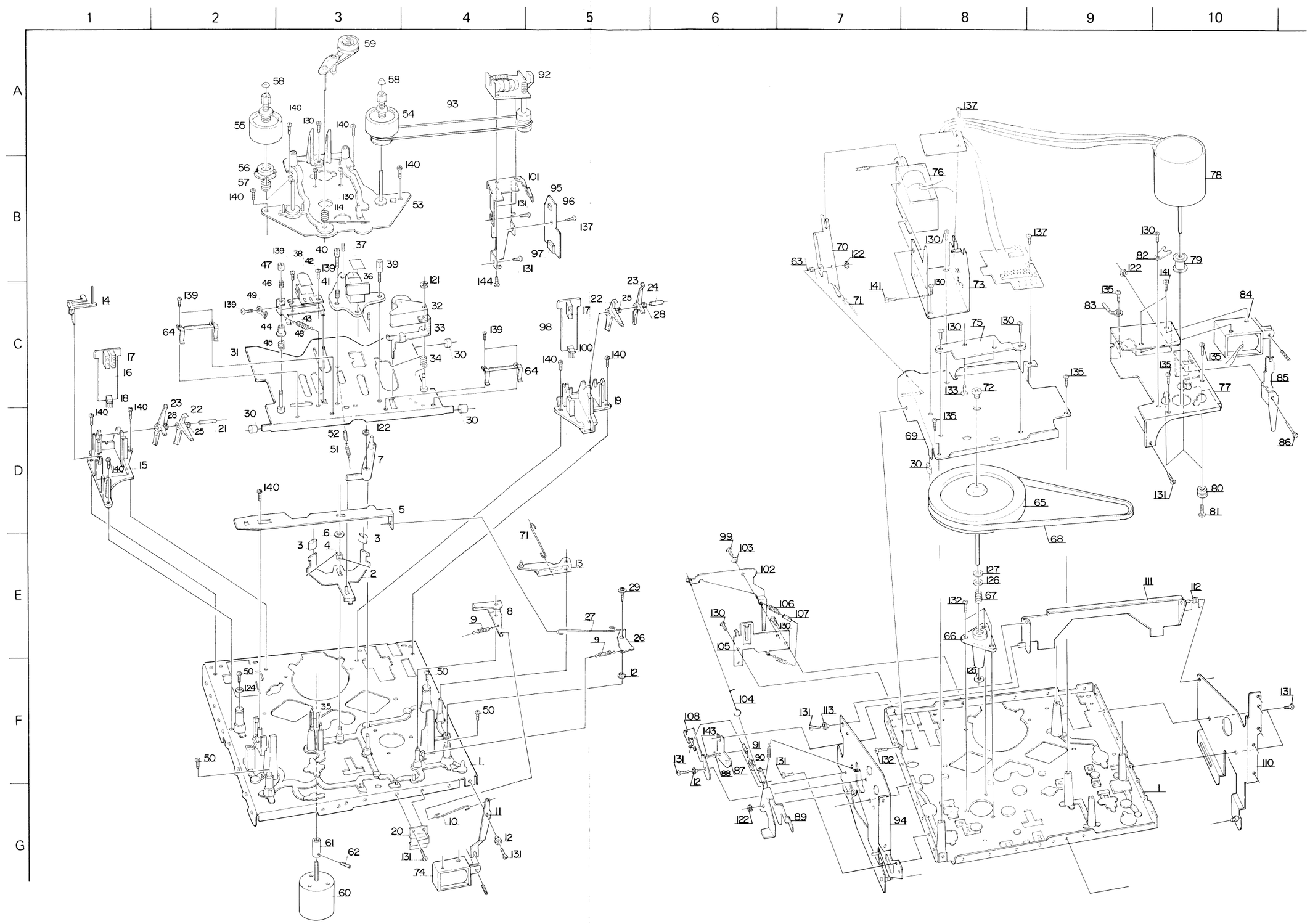
Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VKL4522-001	Joint Bracket		1
2	VKL4169-00A	Gear Frame Ass'y		1
3	VKS4109-004	Brake Drum		1
4	VKS4108-003	Spur Gear		
5	VKW3001-006	Spring		1
6	VKS4110-002	Brake Arm		1
7	VKZ4111-001	Rubber Tire		1
8	VKL4271-001	Rubber Retainer		1
9	VKW4106-001	Torsion Spring		1
10	VKS3102-001	Rack Plate		1
11	VKH4123-001	Collar		1
12	VKL4609-00A	Arm Ass'y		1
13	*VKL3188-00C	Holder Plate Ass'y		1
14	VKL4213-002	Panel Plate		1
15	VJD4273-001	Indicator		1
16	VKZ4120-001	Sheet		1
17	VKL4507-001	Lamp Bracket		1
18	T47861-001	Pilot Lamp		1
19	VKL4380-00A	Cross Bar Ass'y		2
(20~22, 25)	ZCKDA77Y-CCA	Cassette Lid Sub Ass'y		1 set
20	VJT2035-001	Cassette Lid		1
21	VKY4156-001	Cassette Spring		2
22	VKY4159-002	Cassette Spring		1
23	VKW4153-002	Holder Spring		1
24	VKW4153-003	Holder Spring		1
25	*VJD4339-001	Head Mark		1
26	*VGM0112-001	Level Meter		2
(27~35)	ZCKDA77Y-CBF	Front Plate Sub Ass'y		1 set
27	*VJC1089-001	Front Plate		1
28	VJD4262-003	Power Escutcheon		1
29	*VJD4328-001	Knob Escutcheon		1
30	VXP4031-00B	Eject Knob Ass'y		1
31	*VKL4613-001	Knob Bracket		1
32	VKW3001-031	Spring		1
33	VJK4106-001	Counter Lens		1
34	*VJD4329-001	Lever Escutcheon		1
35	*VJD4330-001	Volume Escutcheon		1
36	*VJD3201-001	Meter Plate		1
37	*VJK3141-001	Finder		1
38	*VJD2142-002	Meter Escutcheon		1
39	*VJD4326-001	Indicator	for Multi-peak	1
40	*VJD4327-001	Indicator Holder		1
41	*VMW4554-001	P.W. Board	for Indicator	1
42	VXP3027-00B	Power Knob Ass'y		1
43	VKS4113-002	Remote Bar		1
44	VYTS404-001	Lock Plate		1
45	VXS4019-001	Knob	for Timer & Memory	2
46	T47818-001	Spacer		3
47	VXP3046-001	Push Button	for REW	1
48	〃 -002	〃	for FF	1
49	〃 -003	〃	for PLAY	1
50	〃 -004	〃	for STOP	1
51	〃 -005	〃	for REC	1
52	〃 -006	〃	for PAUSE	1
53	VJD3204-001	Button Case		1
54	VXP4056-001	Push Button	for Rec Mute	1
55	*VXL4088-00A	Knob Ass'y	for Rec (L)	1
56	*VXL4089-00A	〃	for Rec (R)	1
57	*VXL4085-00A	〃	for Output	1
58	*VXL4086-00A	〃	for Rec EQ	1
59	*VXQ4017-002	Lever Knob		4
60	*VJT3046-001	Cassette Door		1
61	*VJT3032-003	Door Plate		1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
62	VJZ4008-001	Double Face		1
63	*VJD4331-001	3 Head Mark		1
64	*VKL1158-001	Bottom Cover		1
65	*VJF4003-001	Foot		4
66	VKL1124-002	Top cover		1
67	VKZ3001-002	Special Screw		6
68	VND4016-001	Metal Sticker		1
69	VYN2052-001GA	Name Plate	KD-A77 B	1
	〃 -002GA	〃	KD-A77 A	1
	〃 -003GA	〃	KD-A77 C	1
	〃 -004GA	〃	KD-A77 E	1
	〃 -005GA	〃	KD-A77 J	1
	〃 -006GA	〃	KD-A77 U	1
70	E48729-002	Plastic Rivet	for Name Plate	2
71	*VKL1155-001	Amp Chassis		1
72	VKL4441-001	Switch Bracket		1
73	QSP2111-011BS	Push Switch	KD-A77 B, for Power ⚠	1
	QSP2111-011	〃	KD-A77 A, 〃 ⚠	1
	QSP1110-222	〃	KD-A77 C/J, 〃 ⚠	1
	QSP1110-221	〃	KD-A77 U, 〃 ⚠	1
74	T47047-001	Condenser Cap.	KD-A77 J/U ⚠	1
75	QFA72BM-223	M.P. Capacitor	KD-A77 C, 0.022μF ⚠	1
	QFH72BM-223	M.M. Capacitor	KD-A77 J, 0.022μF ⚠	1
	QFH53AM-223	〃	KD-A77 U, 0.022μF ⚠	1
76	QMG1321-002BS	Fuse Holder	KD-A77 B ⚠	1
	QMG1321-002	〃	KD-A77 E ⚠	1
77	TAP344324-01	Power Transformer	KD-A77 A/E ⚠	1
	TAP344324-01BS	〃	KD-A77 B ⚠	1
	TAP344325-01	〃	KD-A77 C/J ⚠	1
	VTP66U3-011	〃	KD-A77 U ⚠	1
78	QSS2325-011	Voltage Select Switch	KD-A77 A/E ⚠	1
	QSS2325-011BS	〃	KD-A77 B ⚠	1
	QSR0084-001	〃	KD-A77 U ⚠	1
79	QMF51A2-R20LBS	Fuse	KD-A77 B ⚠	1
80	TAZ000509-08	Fuse Seal	KD-A77 B	1
81	VKZ4001-011	Wire Clamp		5
82	VKL1156-001	Front Bracket		1
83	VMW4551-001	Switch P.W.B.	for Timer & Memory	2
84	QSS2301-101	Slide Switch	〃 〃	2
85	VKL4641-001	Chassis Bracket	for Power Supply P.W.B.	2
86	QVE3A3A-054F	Variable Resistor		1
87	*VMW4552-001	P.W.B.	for V.R.	1
88	*VST0003-001	Switch Unit Ass'y		1
89	*TLR102S	LED	for REC	1
90	TLG102S	〃	for PLAY, FF, REW, PAUSE	4
91	VKS4167-001	Spacer		5
92	VKS3000-001	P.C.B. Support		3
93	*VKL1157-001	Rear Bracket	KD-A77 A/B/E/U	1
	VKL1157-002	〃	KD-A77 C/J	1
94	QMC0888-008	DIN Jack Ass'y	for Remote	1
95	QMP2560-200	Power Cord with Plug	KD-A77 A ⚠	1
	QMP9017-008BS	Power Cord	KD-A77 B ⚠	1
	QMP1200-200	Power Cord with Plug	KD-A77 C/J ⚠	1
	QMP3900-200	Power Cord	KD-A77 E ⚠	1
	QMP7600-200	Power Cord with Plug	KD-A77 U ⚠	1
96	QHS3876-162	Strain Relief	⚠	1
	QHS3876-162BS	〃	KD-A77 B ⚠	1
97	TAJ331301-03	Pin Jack Ass'y		1
98	TAA345532-01	Circuit Board		1
99	VKS2104-001	Lamp Hood		1
100	QMG1121-003	Fuse Holder	for Lamp	2
101	VGZ0001-002	Lamp Ass'y		2
102	*VMW4553-001	P.W. Board	for LED	1
103	*VKS4164-001	LED Holder		1
104	TLR102	LED		1
105	*VKL4618-001	P.W.B Bracket		1

Enclosure Ass'y and Electrical Parts (Except P.W. Board parts)



Mechanical Component Parts



Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
106	*VKL4619-001	Support Bracket		1
107	VKS3108-001	P.W.B. Support	for Support Bracket	1
108	TAW000504-01	Connector	KD-A77 C/J/U	2
109	VKL4275-001	Bracket	KD-A77 U	1
			for Voltage Select Switch	
110	NTB3000S	Nut	for Pin Jack	2
111	VKZ4001-001	Wire Clamp		1
112	F4932-002	Special Washer	for Power Transformer	2
113	*VYTA446-001	Blind	for Volume ESC.	1
114	VYTA447-001	〃	for Lever ESC.	1
115	T46392-009	Illumination Shield	for Rear Panel	3
116	VYSH103-023	Spacer		2
117	VKL4690-001	Bracket		1
121	REE2000	E Ring	for Brake Drum x 1 Rubber Retainer x 1 Rake Plate x 1 Arm Ass'y x 1	4
122	REE2500	〃	for Holder Plate x 2 Cross Bar Ass'y x 2	4
124	WNS2600Z	Washer	for Brake Drum	1
125	Q03093-524	〃	for Rubber Retainer	1
126	WSS3000N	〃		1
127	DPSP4010ZS	Screw	for Power Transformer	2
128	LDSP2604R	〃	for Cassette Lid	1
129	LPSP2604Z	〃	for Timer SW. P.W.B. x 2 Memory SW. P.W.B. x 2	4
130	LPSP2605Z	〃	for Joint Bracket	1
131	LPSP2608Z	〃	for Rack Plate	1
132	LPSP3006ZS	〃	for Power Switch x 2 Lever Switch x 4	6
133	SBSB2606Z	Tapping Screw	for Lamp Bracket	2
134	SBSB2608Z	〃	for Button Case	4
135	SBSB3006Z	〃	for Dumper x 2, Front Plate x 2 Chassis Bracket x 2, P. Bracket x 1, Wire Clamp x 10, Rear Bracket x 4	21
136	SBSB3008Z	〃	for Knob Bracket x 1, Fuse Holder x 3, Bottom Cover x 7	11
138	SBSB3006V	〃	for Amp. P.W.B. x 4 P.W.B. x 2	6
139	SDSB3006R	Screw	for Rear Bracket	1
140	SDSP2606R	〃	for DIN jack Ass'y	2
141	SDSP3006ZS	〃	for Front Bracket	7
142	SDSP3006RS	〃	for Voltage Select SW	2
143	SDSP3008RS	〃	for Pin Jack Ass'y	2
145	SSSP2608Z	〃	for Button Case	2
146	DPSP2608Z	〃	for Meter Escutcheon	5
147	DPSP3006ZS	〃	for P.W.B Bracket x 2 Front Bracket x 4	6
(Label)				
	VND4001-005	Caution Label	for Remote Control	1
	VND4006-002	Caution Label	for Timer	1

Mechanical Component Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	*VKL1118-00E	Chassis Base Ass'y		1
2	VKL4361-002	Brake Bar		1
3	T44341-001	Rubber Tire		2
4	VKW4145-001	Brake Bar Spring	for Brake Bar	1
5	VKL4664-001	Lock Bar		1
6	VKZ4005-001	Stopper	for Brake Bar	1
7	VKS4135-00A	Lock Lever Ass'y		1
8	VKL4364-001	Pause Lever		1
9	VKW3002-004	Tension Spring	for Pause Lever	2
10	VKW4136-001	Connecting Wire		1
11	VKL4365-001	Pause Solenoid Lever		1
12	*VKH3001-027	Flange Collar		3
13	VKL4366-00A	Play Arm Ass'y		1
14	*VKS4166-001	Cassette SW. Lever		1
15	VKS3109-001	Switch Holder (L)		1
16	VMW4522-001	P.W.B.)L)		1
17	QSP0029-001	Slide Switch		3
18	QMV5004-004	Connector		1
19	VKS3110-001	Switch Holder (R)		1
20	VKL4479-001	Flywheel Cover		1
21	VKH4196-001	Shaft		1
22	VKS4136-002	Switch Lever		2
23	VKS4156-001	Pressure Lever		2
24	VKH4196-002	Shaft		1
25	VKW4138-001	Pressure Lever Spring		2
26	VKL4399-001	Eject Safety Lever		1
27	VKW4142-001	Connecting Wire		1
28	VKW4191-001	Pressure Lever Spring		1
29	GPSA2608Z	W. Tap. Screw		1
30	VKZ3003-001	Rubber Tube		4
31	*VKL4370-00D	Slide Base Ass'y		1
32	*VKP4105-00B	Pinch Roller Bracket Ass'y		1
33	VKL4371-001	Push Arm		1
34	VKW4139-001	Pinch Roller Spring		1
35	*VYSF101-013	Spacer		1
36	*VGH0425-301-0A	R & P Head Ass'y		1
37	*VND4020-001	Head Plate	R/P Head	1
38	THC037417-02	Head Plate	E Head	1
39	*VKH4238-001	Azimuth Screw		1
40	*VKH4239-001	R/P Head Screw		1
41	*VKW3001-038	Compression Spring	for Azimuth	1
42	ZMM090414-0A	E. Head Ass'y		1
43	*VKL4620-001	E. Head Lever		1
44	*VKH3001-029	Flange Collar	for E. Head Lever	1
45	*VKW3001-039	Compression Spring		1
46	*VKW3001-040	〃		1
47	*VKH4240-001	Adjust Screw		1
48	*VKW3002-033	Tension Spring		1
49	VKZ4001-009	Wire Holder		1
50	GPSA2612Z	Tapping Screw	for Slide Base	4
51	VKW3002-005	Tension Spring	for Slide Base	1
52	TJN265559-02	Silencer		1
53	VKL3155-00A	Reel Disk Bracket Ass'y		1
54	VKR4113-00A	Take-Up Reel Ass'y		1
55	VKR4118-00A	Supply Reel Ass'y		1
56	VKS4130-001	Back Tension Base		1
57	VKW3001-026	Compression Spring	for Back Tension	1
58	VKS4131-001	Reel Stopper		2
59	VKS4151-00B	Idler Ass'y Unit		1
60	MDN-7V1	Reel Motor		1
61	VKR4121-001	Motor Pulley		1
62	YRS2603B	Screw	for Motor Pulley	1
63	VKW4149-001	Play Solenoid Spring		1
64	VKY4170-001	Wire Clamper		2
65	VKF3107-00C	Flywheel Ass'y		1
66	VKF3103-00B	Capstan Metal		1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
67	T30301-137	Spring		1
68	VKB3001-008	Capstan Belt		1
69	VKL4372-00B	Flywheel Holder Ass'y		1
70	VKL4368-002	Play Solenoid Lever		1
71	VKW4137-001	Connecting Wire		1
72	TEP357456-01	Thrust Screw		1
73	*VKL4629-001	Play Solenoid Bracket		1
74	VGP0201-004	D.C. Solenoid Ass'y	for Pause	1
75	VKL4478-001	Pause Solenoid Bracket		1
76	VGP0301-002	D.C. Solenoid Ass'y	for Play	1
77	VKL3161-002	Motor Bracket		1
78	m1606-00A	D.C. Motor	Capstan	1
79	VKS4139-001	Motor Pulley		1
80	TER357465-03	Cushion Rubber		3
81	VKZ4109-001	Motor Screw		3
82	TFB345469-01	Rubber Stopper		1
83	VKZ4001-011	Wire Holder		1
84	VGP0201-005	D.C. Solenoid Ass'y	for Brake	1
85	VKL4363-002	Lock Solenoid Lever		1
86	VKH4194-001	Shaft		1
87	*VKL4622-00A	Joint Arm Ass'y		1
88	VKH4202-001	Flange Collar		1
89	VKL4464-001	Lock Lever		1
90	VKW3000-030	Spring		1
91	TJN265559-04	Silencer		1
92	VKC6110-001T	Counter Ass'y		1
93	VKB3000-012	Belt	for Counter	1
94	*VKL4608-00B	Mecha Bracket (R) Ass'y		1
95	*VMW4555-001	P.W. Board		1
96	DN6835	Hall I.C.		1
97	QMV5004-004	Connector		1
98	VMW4534-001	P.W. Board		1
99	VKZ4128-001	Special Screw		1
100	QMV5004-003	Connector		1
101	*VKL4617-001	Counter Bracket		1
102	*VKL4614-001	Lock Arm		1
103	*VKH4253-001	Collar		1
104	VKW4161-002	Wire		1
105	*VKL4615-001	Lock Arm Bracket		1
106	VKW3002-024	Tension Spring		1
107	TJN265559-04	Silencer		1
108	VKL4568-001	Hold Arm		1
110	*VKL4607-00A	Mecha Bracket (L) Ass'y		1
111	VKL4403-00D	Shift Arm Ass'y		1
112	VKW4156-001	Shift Arm Spring		1
113	T43909-002	Metal		1
114	VKW4134-001	Idler Spring		1
121	REE2000	E Ring	for Push Arm	1
122	REE2500	〃	for Lock Lever Ass'y x 1 Play Solenoid Lever x 1 Shaft x 1, Lock Lever x 1	4
124	WNB2600N	Washer	for Slide Base Ass'y	1
125	Q03093-522	〃	for Flywheel	1
126	Q03093-621	〃	〃	1
127	Q03093-827	〃	〃	1
130	LPSP2604Z	Screw	for Reel Motor x 3 Play Solenoid Bracket x 2 Pause Solenoid Bracket x 2 Rubber Stopper x 1 Lock Arm Bracket x 2	10
131	LPSP2605Z	〃	for Pause Solenoid Lever x 1 Flywheel Cover x 2 Motor Bracket x 1 Counter Bracket x 3 Flange Collar x 2 Metal x 1, Mecha x 2	12

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
132	LPSP2606Z	Screw	for Capstan Metal x 3 Flywheel Holder x 1	4
133	LPSP3004ZS	〃	for Solenoid	2
135	SBSB2610Z	Tapping Screw	for Flywheel Holder x 2 Motor Bracket x 2	4
137	SDSP2606Z	Screw	for P.W. Board	3
139	SPSP2004N	〃	for E. Head	7
140	SPSP2605Z		for Reel Ass'y Unit x 4 Switch Holder x 5	9
141	SPSP3003ZS		for Play Solenoid x 2 Brake Solenoid x 2	4
143	SSSP2605Z	〃	for Flange Collar	1
144	SSSP3006ZS	〃	for Counter	2

Main Amp. P.W.B. Parts List

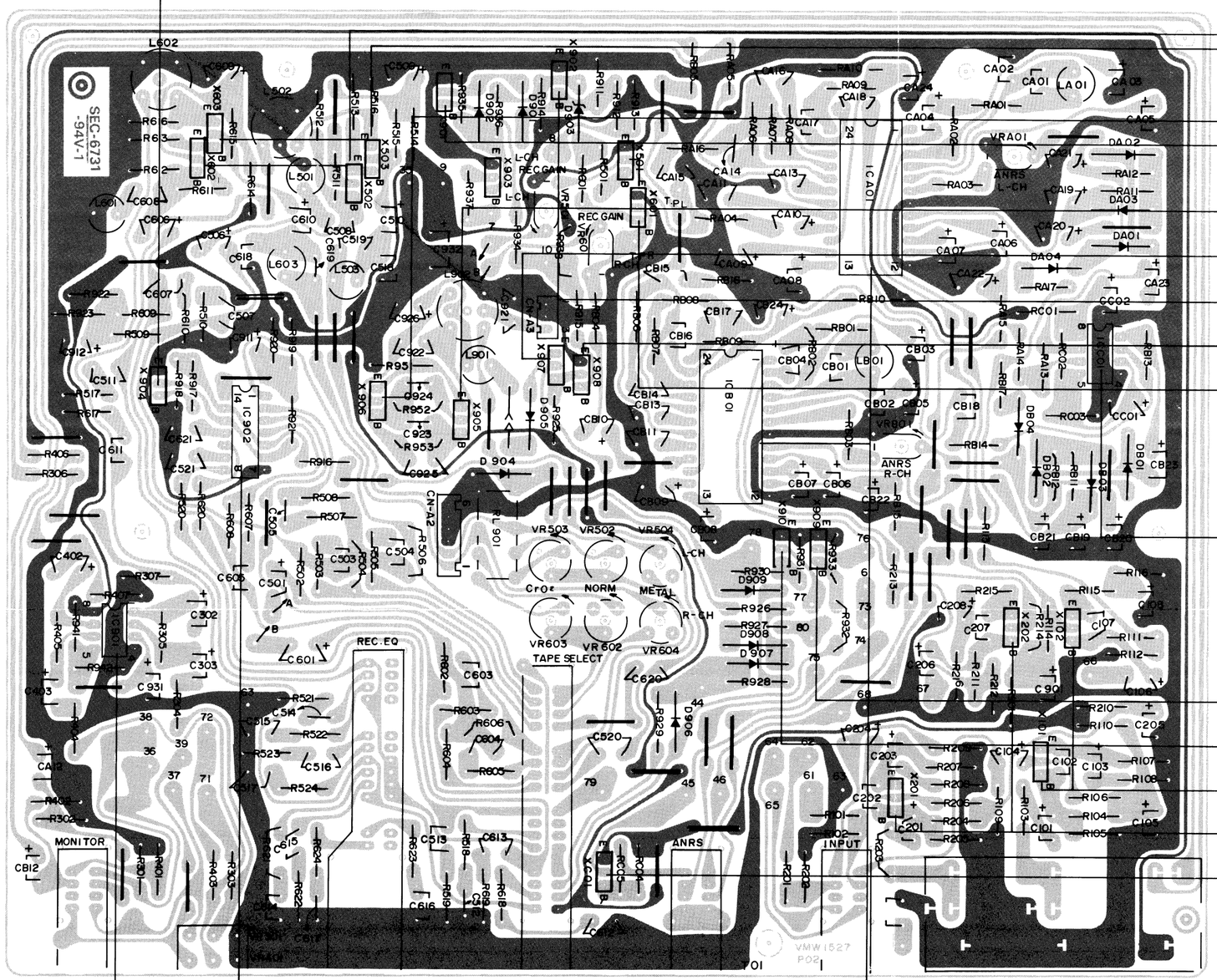
Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VMW1527-002	P.W. Board	No supply as parts ass'y	1
R101,201,304,404, 502,602,504,604	QRD141J-823SY	C. Resistor	82kΩ 1/4W	8
R102,202,507,607, 510,610,923	〃 -333SY	〃	33KΩ 〃	7
R103,203	〃 -101SY	〃	100Ω 〃	2
R104,204,111,211	〃 -154SY	〃	150kΩ 〃	4
R105,205,513,613, A08,B08	〃 -183SY	〃	18kΩ 〃	6
R106,206,A11,B11, C04,C05,911,912, 915,916,931,933, 934	〃 -103SY	〃	10kΩ 〃	13
R107,207	〃 -122SY	〃	1.2kΩ 〃	2
R108,208,520,620	〃 -820SY	〃	82Ω 〃	4
R109,209,113,213, A09,B09,301,401, 302,402,512,612,	〃 -104SY	〃	100kΩ 〃	12
R110,210,303,403, 914	〃 -332SY	〃	3.3kΩ 〃	5
R114,214,A02,B02, 918,941,942,952, 953	〃 -473SY	〃	47kΩ 〃	9
R115,215	〃 -152SY	〃	1.5kΩ 〃	2
R116,216	〃 -682SY	〃	6.8kΩ 〃	2
RA01,B01,A04,B04, A17,B17,925	〃 -472SY	〃	4.7kΩ 〃	7
RA03,B03	〃 -222SY	〃	2.2kΩ 〃	2
RA05,B05,501,601	〃 -102SY	〃	1kΩ 〃	4
RA06,B06,A07,B07	〃 -272SY	〃	2.7kΩ 〃	4
RA10,B10	QRD146K-181	Unflammable Resistor	180Ω 〃 ⚠	2
RA12,B12,307,407, 505,605,917,930, 932,938	QRD141J-223SY	C. Resistor	22kΩ 〃	10
RA13,B13	〃 -474SY	〃	470kΩ 〃	2
RA14,B14	〃 -153SY	〃	15kΩ 〃	2
RA15,B15,516,616	〃 -471SY	〃	470Ω 〃	4
RA16,B16,523,623	〃 -680SY	〃	68Ω 〃	4
R901	〃 -822SY	〃	8.2kΩ 〃	1
RC01	QRD146K-221	Unflammable Resistor	220Ω 〃	1
RC02,C03,922	QRD141J-683SY	C. Resistor	68kΩ 〃	3
R503,603,919	〃 -273SY	〃	27kΩ 〃	3
R506,606	〃 -274SY	〃	270kΩ 〃	2
R305,405,509,609	〃 -334SY	〃	330kΩ 〃	4
R511,611	〃 -684SY	〃	680kΩ 〃	2
R514,614	〃 -821SY	〃	820Ω 〃	2

Ref. No.	Parts No.	Parts Name	Remarks		Q'ty
R515,615	QRD141J-392SY	C. Resistor	39kΩ	1/4W	2
R517,617	〃 -121SY	〃	120Ω	〃	2
R522,622	〃 -101SY	〃	100Ω	〃	2
R521,621,304,306	〃 -150SY	〃	150Ω	〃	4
R524,624	〃 -470SY	〃	47Ω	〃	2
R518,618	〃 -271SY	〃	270Ω	〃	2
R913,112,212	〃 -393SY	〃	39kΩ	〃	3
R920	〃 -563SY	〃	56kΩ	〃	1
R921,508,608	〃 -224SY	〃	220kΩ	〃	3
R926	QRD146K-330	Unflammable Resistor	33Ω	〃 ⚠	1
R927	QRD126K-391	〃	390Ω	1/2W ⚠	1
R928	〃 -181	〃	180Ω	〃 ⚠	1
R929	〃 -331	〃	330Ω	〃 ⚠	1
R951	QRD146K-150	〃	15Ω	1/4W ⚠	1
C101,201,104,204, A20,B20	QEB41EM-335N	Low Leak E. Capacitor	3.3μF	25V ⚠ ⚠	6
C102,202,A17,B17	QCS11HJ-471	F. Ceramic Capacitor	470pF	50V	4
C105,205,901,C02, 509,609	QEW41EA-476N	E. Capacitor	47μF	25V	6
C106,206	QEB41HM-105N	Low Leak E. Capacitor	1μF	50V	2
C107,207,A11,B11, A13,B13	QCS11HJ-151	F. Ceramic Capacitor	150pF	〃	6
C108,208	QEW41CA-476N	E. Capacitor	47μF	16V	2
CA01,B01	QCS11HJ-201	F. Ceramic Capacitor	200pF	50V	2
CA02,B02	QFM41HJ-102	Mylar Capacitor	0.001μF	〃	2
CA03,B03,A05,B05, A07,B07,C01,912, 931	QEW41CA-336N	E. Capacitor	33μF	16V	9
CA04,B04,A23,B23, 501,601,506,606, 303,403	QEW41HA-105N	〃	1μF	50V	10
CA06,B06	QEW41EA-335N	〃	3.3μF	25V	2
CA08,B08,A09,B09	QEW41AA-107N	〃	100μF	10V	4
CA10,B10,A12,B12	QEW41EA-475N	〃	4.7μF	25V	4
CA14,B14,924,925	QFM41HJ-272	Mylar Capacitor	0.0027μF	50V	4
CA15,B15,511,611	〃 -273	〃	0.027μF	〃	4
CA18,B18	〃 -122	〃	0.0012μF	〃	2
CA19,B19	QEB41HM-334M	Low Leak E. Capacitor	0.33μF	〃	2
CA21,B21	QEW41AA-476N	E. Capacitor	47μF	10V	2
CA24,B24	QEW41EA-107N	〃	100μF	25V	2
C503,603,504,604, 505,605	QFM41HJ-182	Mylar Capacitor	0.0018μF	50V	6
C507,607	〃 -104	〃	0.1μF	〃	2
C508,608	QCS11HJ-201	F. Ceramic Capacitor	200pF	〃	2
C510,610	QEW41EA-335N	E. Capacitor	3.3μF	25V	2
C512,612,513,613	QFM41HJ-153	Mylar Capacitor	0.015μF	50V	4
C514,614	〃 -562	〃	0.0056μF	〃	2
C515,615	〃 -123	〃	0.012μF	〃	2
C516,616	〃 -183	〃	0.018μF	〃	2
C517,617	〃 -273	〃	0.027μF	〃	2
C518,618	QCS11HJ-391	F. Ceramic Capacitor	390pF	〃	2
C519,619	QCS12HJ-201	〃	200pF	〃	2
C520,620	〃 -221	〃	220pF	〃	2
C521,621	QFM41HJ-682	Mylar Capacitor	0.0068μF	〃	2
C911	QEW41EA-336N	E. Capacitor	33μF	25V	1
C921	QFP32AJ-562L	Polystylene Capacitor	0.0056μF	10V	1
C922	〃 -223L	〃	0.022μF	〃	1
C923	QFM41HJ-103	Mylar Capacitor	0.01μF	50V	1
C926	QEW41EA-106N	E. Capacitor	10μF	25V	1
C302,402	〃 -476N	〃	47μF	〃	2
	QWY123-022	Bus Wire			45
VRA01,B01	QVP8A0B-023	Semi Fixed Resistor	2kΩ		2
VR501,601	〃 -024	〃	20kΩ		2
CR502,602	QVZ3501-473	〃	47kΩ		2
VR503,603,504,604	*QVZ3501-223	〃	22kΩ		4
VR301,401	QVP8A2A-014V	Variable Resistor	10kΩ		1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
LA01,B01,501,601	VQP0001-183	Indicator	18mH	6
503,603				
L502,602	*TAC000320-08	〃		2
L901	VQP0001-102	〃	1mH	1
L902	*VQH1009-004	OSC Coil		1
RL901	*VSK5D24-211	Relay		1
X101,201,502,602	2SC1344(E.F)	Si. Transistor		4
X102,202	2SC458A(C.D)	〃		2
ICA01,B01	TAT000351-01	I.C.		2
ICC01	UPC4558C	〃		1
IC901	UPC4557C	〃		1
DA01,B01,A02,B02	1N34A	Ge. Diode		4
DA03,B03,A04,B04	1S2076	Si. Diode		4
X901,902,904,908,	2SC458PG(C.D)	Si. Transistor		6
909,910				
D903	RD6.8E(C)	Zener Diode		1
X501,601,907	2SD468(B.C)	Si. Transistor		3
IC902	UPC4066C	I.C.		1
X503,603	2SC458A(C.D)	Si. Transistor		2
D904,905,906,907,	1S2076	Si. Diode		6
908,909				
X905,906	2SC1685(S)	Si. Transistor		2
XC01	2SA844(C.D)	〃		1
	VMJ5002-003	Jack Ass'y	for Mic & Headphone	1
S1	QSL2209-002	Lever Switch	for Input Select	1
S2	QSL2309-001	〃	for ANRS	1
S3	QSL8309-001	〃	for EQ	1
S4	*QSR6045-204	Rotary Switch	for REC EQ	1
S5	QSL2209-002	Lever Switch	for Monitor	1
	QMV5005-003	Connector	for Erase	1
	QMV5005-006	〃	for Rec	1
	VMZ0005-001	Post pin		2
	E43727-002	Wrapping Tab		33

Printed Wiring Board Parts

Main Amp P.W. Board Parts



	E	C	B
X904	0	0	0.66
X502 602	1.83	18.8	2.37
X503 603	1.16	9.1	1.83
X906	(0.44)	(13.2)	(−3.1)
X901	0	0.68	5.1
X905	(0.44)	(13.2)	(−3.1)
X907	0	19.2 (14)	0
X902	0	10	0
X908	0	0	0.68
X501 601	0	0.67	0

( ) at recording mode

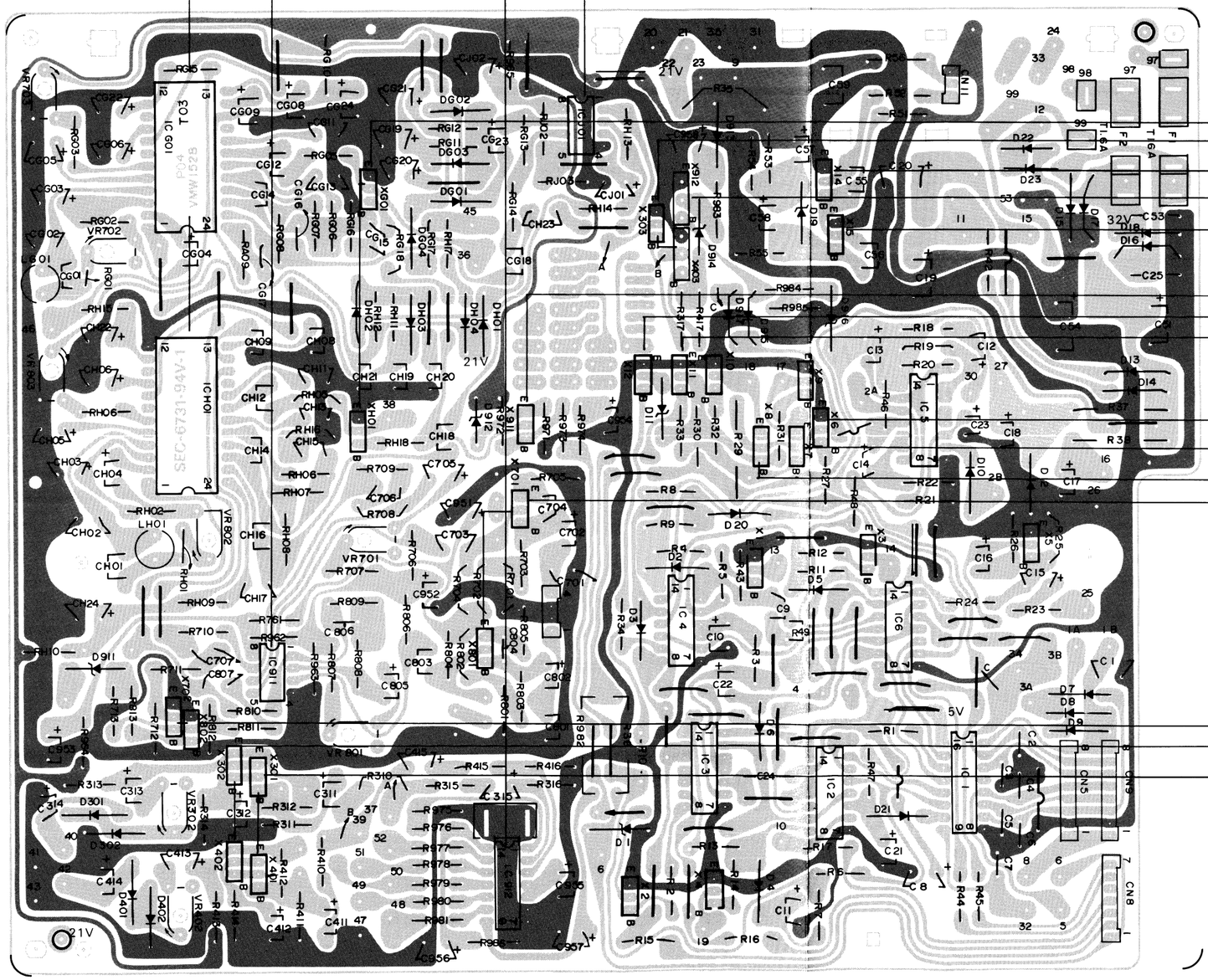
	1	2	3	4	5	6	7	8
ICC01	10.2	10.2	10.2	0	10.2	10.2	10.2	20.3

	E	C	B
X909	0	5.1	0
X910	0	0.68	0
X101 102	1.2	7.3	1.81
X201 202	1.37	8.6	2.15
XC01	21	21	20.3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ICA01 B01	8.6	8.1	8.4	8.6	6.3	3.6	0	3.5	7.4	7.4	0.2	0	0.06	0.7	17.6	7.4	8.7	7.4	8.7	9.9	9.9	9.9	9.9	14
IC902	6.6	6.6	6.6	6.6	12.5	0	0	1.16	0	1.16	0	0	12.5	13.1										
IC901	10.5	10.5	10.5	0	10.5	10.5	10.5	21																

Power Supply P.W. Board Parts

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ICG01 HO1	8.6	7.9	8.9	8.9	6.5	3.8	–	3.8	8.1	–	0.2	0	0.05	0.7	18	–	9.4	8.2	9.5	10.7	10.7	10.7	10.7	15.3
IC911	8.6	8.6	8.4	0	8.4	8.6	8.6	17.2																
IC912	0	0	0	2.7	2.7	0	0	14.6	0	0	0	0	0	0.1										
ICJ01	9	9	9	0	9	9	9	18																



	E	C	B
XG01 HO1	0	0	0.67
X303 403	0	0	0
X14	0	28	0.64
X912	0	0	0.7
X15	0	0.64	0.62
X911	16.7	16.7	16.7
X12	0	–	0.2
X11	0	0.74	0.73
X6	0	0	0.74
X7	0	15.3	0.74
X8	0	15.3	0.74
X701 801	0.1	4.3	0.67
X702 802	0	0	0.65
X302 402	8.9	3	8.2
X301 401	3	8.2	3.6

Power Supply P.W.B Parts List

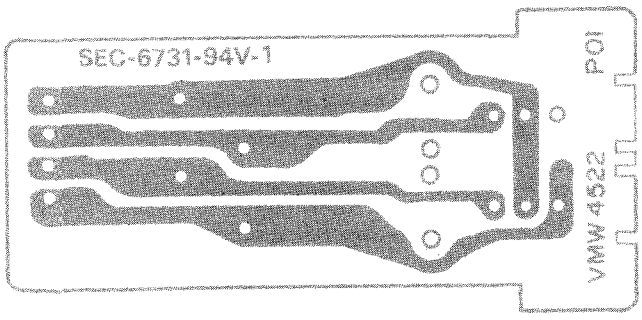
Ref. No.	Parts No.	Parts Name	Remarks			Q'ty
	VMW1528-002	P.W. Board	No supply as parts ass'y			1
R8,9,21,22,23,G05, H05,317,417,964, 965,984,985	QRD141J-102SY	C. Resistor	1kΩ	1/4W		13
R2,6,7,10,27,34, G17,H17,983	〃 -472SY	〃	4.7kΩ	〃		9
R3	〃 -561SY	〃	560Ω	〃		1
R4,15,16,44,45	〃 -271SY	〃	270Ω	〃		5
R5,974,977,978, 979,980,981	〃 -151SY	〃	150Ω	〃		7
R11,12,13,14,17	〃 -331SY	〃	330Ω	〃		5
R24,G09,H09,315, 415	〃 -104SY	〃	100kΩ	〃		5
R20,47,G12,H12, 973	〃 -223SY	〃	22kΩ	〃		5
R1,G15,H15	〃 -471SY	〃	470Ω	〃		3
R25,971	〃 -562SY	〃	5.6kΩ	〃		2
R26	〃 -560SY	〃	56Ω	〃		1
R28,30	QRD121K-122	〃	1.2kΩ	1/2W		2
R29	QRG029J-220	O.M.F. Resistor	22Ω	2W	⚠	1
RG03,H03,313,413	QRD141J-222SY	C. Resistor	2.2kΩ	1/4W		4
R31,32	〃 -272SY	〃	2.7kΩ	〃		2
R33,962,963,972	〃 -333SY	〃	33kΩ	〃		4
R35	QRG019J-151	O.M.F. Resistor	150Ω	1W	⚠	1
R36	QRG029J-101	〃	100Ω	2W	⚠	1
R37	QRG039J-560	〃	56Ω	3W	⚠	1
R38	QRX029J-150	M.F. Resistor	15Ω	〃	⚠	1
R42	QRD126K-220	Unflammable Resistor	22Ω	1/2W	⚠	1
R43	QRD141J-103SY	C. Resistor	10kΩ	1/4W		1
R46	〃 -391SY	〃	390Ω	〃		1
R49	〃 -562S	〃	5.6kΩ	〃		1
R51,J02,J03	〃 -683SY	〃	68kΩ	〃		3
R52	QRD146K-152	Unflammable Resistor	1.5kΩ	〃	⚠	1
R53	QRD141K-332SY	C. Resistor	3.3kΩ	〃		1
R54	QRD141J-472SY	〃	4.7kΩ	〃		1
R55,48	〃 -471SY	〃	470Ω	〃		2
R56	QRD146K-2R2	Unflammable Resistor	2.2Ω	〃	⚠	1
RG11,H11,G18,H18, 18,19	QRD141J-103SY	C. Resistor	10kΩ	〃		6
R702,802	〃 -184SY	〃	180kΩ	〃		2
R703,803	〃 -154SY	〃	150kΩ	〃		2
R705,805	〃 -331SY	〃	330Ω	〃		2
R706,806,976	〃 -334SY	〃	330kΩ	〃		3
R707,807	〃 -470SY	〃	47Ω	〃		2
R708,808	〃 -822SY	〃	8.2kΩ	〃		2
R709,809	〃 -274SY	〃	270kΩ	〃		2
R710,810,G14,H14, 961	〃 -153SY	〃	15kΩ	〃		5
R711,811,G08,H08, 701,801,704,804, 986	〃 -183SY	〃	18kΩ	〃		9
R712,812,311,411	〃 -154SY	〃	150kΩ	〃		4
R713,813,G02,H02	〃 -473SY	〃	47kΩ	〃		4
RG06,H06,G07,H07	〃 -272SY	〃	2.7kΩ	〃		4
RG10,H10	QRD146K-181	Unflammable Resistor	180Ω	〃	⚠	2
RG13,H13	QRD141J-474SY	C. Resistor	470kΩ	〃		2
RG16,H16	〃 -680SY	〃	68Ω	〃		2
R310,410	〃 -823SY	〃	82kΩ	〃		2
R312,412	〃 -224SY	〃	220kΩ	〃		2
R314,414	〃 -561SY	〃	560Ω	〃		2
R316,416	〃 -393SY	〃	39kΩ	〃		2
R975	〃 -473SY	〃	47kΩ	〃		1
RG01,H01	QRD143J-821S	〃	820Ω	〃		2
R982	QRG029J-560	Unflammable Resistor	56Ω	2W	⚠	1
C1~7	QCF11HP-102	Mylar Capacitor	0.001μF	50V		7

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
C56	QCF11HP-103	F. Ceramic Capacitor	0.01μF 50V	1
C8	QEW40JA-108N	E. Capacitor	1000μF 6.3V	1
C9	QEN41EM-476M	N.P.E. Capacitor	47μF 25V	1
C10,15	QEW41CA-476N	E. Capacitor	47μF 16V	2
C11,956,G12,H12	QEW41EA-475N	〃	4.7μF 25V	4
C703,803	QFM41HJ-473	Mylar Capacitor	0.047μF 50V	2
C13,16,18	QEW40JA-108N	E. Capacitor	1000μF 6.3V	3
C14,314,414,957, G03,H03,G05,H05, G06,H06,J01	QEW41CA-336N	〃	33μF 16V	11
C17,952	QEW41CA-107N	〃	100μF 16V	2
C19	QEW41VA-108N	〃	1000μF 35V	1
C20	〃 -477N	〃	470μF 〃	1
C21	QEW40JA-107N	〃	100μF 6.3V	1
C22	QEW41HA-105N	〃	1μF 50V	1
C23	QEW41CA-106N	〃	10μF 16V	1
C24	QCF11HP-104	F. Ceramic Capacitor	0.1μF 50V	1
C51	QEW41EA-108N	E. Capacitor	1000μF 25V ⚠	1
C52,53	QCF12HP-103	F. Ceramic Capacitor	0.01μF 50V ⚠	2
C54	QET41HR-228N	E. Capacitor	2200μF 50V ⚠	1
C55	QCS11HJ-221	F. Ceramic Capacitor	220pF 〃	1
C57,954	QEW41EA-106N	E. Capacitor	10μF 25V	2
C58	QEW41CA-336N	〃	1μF 16V	1
C59	QEW41EA-477N	〃	470μF 25V ⚠	1
C701,801	QCS11HJ-181	F. Ceramic Capacitor	180pF 50V	2
C702,802	QEB41EM-105N	Low Leak E. Capacitor	1μF 25V	2
C704,804	QCS11HJ-471	F. Ceramic Capacitor	470pF 50V	2
C705,805	QEB41CM-107M	Low Leak E. Capacitor	100μF 16V	2
C706,806	QFM41HJ-153	Mylar Capacitor	0.015μF 50V	2
C707,807	〃 -472	〃	0.0047μF 〃	2
C951	QEB41EM-476N	Low Leak E. Capacitor	47μF 25V ⚠	1
C953	QEW41EA-476N	E. Capacitor	47μF 〃	1
C958	〃 -107N	〃	100μF 〃	1
CG01,H01	QCS11HJ-201	F. Ceramic Capacitor	200pF 50V	2
CG02,H02	QFM41HJ-152	Mylar Capacitor	0.0015μF 〃	2
CG04,H04,G23,H23, 311,411,315,415	QEW41HA-105N	E. Capacitor	1μF 〃	8
CG08,H08,G09,H09	QEW41AA-107N	〃	100μF 10V	4
CG11,H11,G13,H13	QCS11HJ-151	F. Ceramic Capacitor	150pF 50V	4
CG14,H14	QFM41HJ-272	Mylar Capacitor	0.0027μF 〃	2
CG15,H15	〃 -273	〃	0.027μF 〃	2
CG16,H16	〃 -682	〃	0.0068μF 〃	2
CG17,H17	QCS11HJ-471	F. Ceramic Capacitor	470pF 〃	2
CG18,H18	QFM41HJ-122	Mylar Capacitor	0.0012μF 〃	2
CG19,H19	QEB41HM-334M	Low Leak E. Capacitor	0.33μF 〃	2
CG20,H20	QEB41EM-335N	〃	3.3μF 25V	2
CG21,H21	QEW41AA-476N	E. Capacitor	47μF 10V	2
CG22,H22,312,412	QEW40JA-227N	〃	220μF 6.3V	4
CG24,H24	QEW41EA-107N	〃	100μF 25V	2
CJ02	〃 -476N	〃	47μF 〃	1
C313,413	〃 -335N	〃	3.3μF 〃	2
C955	QEW41EA-106N	〃	10μF 〃	1
	QWY123-022	Bus Wire		46
	V44611-005	〃		1
	〃 -006	〃		2
	VMZ0005-001	Post pin		1
VR701,801,	QVP8A0B-013	Semi Fixed Resistor		2
VR702,802	〃 -014	〃		2
VR302,402,703,803	〃 -023	〃		4
LG01,H01	VQP0001-183	Indicator		2
IC1	M54410P	I.C.		1
D1	RD5.1F(B)	Zener Diode		1
IC2	HD7404	I.C.		1
IC3,4,5	HD7400	〃		3
IC6	HD7403	〃		1
D2,4	1S2076	Si. Diode		2

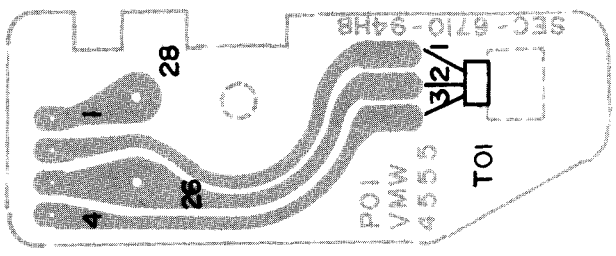
Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
D3,5,6,7,8,9,10,20, 21	1N34A	Ge. Diode		9
D11	RD6.2E(B3)	Zener Diode		1
D12	RD5.1F(B)	Zener Diode		1
D13~18	10E1-B	Si. Diode	⚠	6
D19,22,23	RD10E(I)	Zener Diode	⚠	3
X1,3,4,8	2SC1162(B,C)	Si. Transistor		4
X2,5,6,11,12,14,15, 702,802,912	2SC458PG(C,D)	〃		10
X7,9,10	2SD468(B,C)	〃		3
X701,801	2SC1344(E,F)	〃		2
IC911,J01	UPC4558C	I.C.		2
D911	RD6.8E(C)	Zener Diode		1
D914	RD6.8E(B3)	〃		1
ICG01,H01	TAT000351-01	I.C.		2
XG01,H01,303,403	2SD468(B,C)	Si. Transistor		4
DG01,H01,G02,H02, 301,401,302,402, 915,917	1N34A	Ge. Diode		10
DG03,H03,G04,H04, 913	1S2076	Si. Diode		5
X301,401	2SC458A(C.D)	Si. Transistor		2
X302,402	2SA844(C.D)	〃		2
D912,916	RD4.3E(C)	Zener Diode		2
X911	2SA844(C.D)	Si. Transistor		1
IC912	LB1416S	I.C.		1
	QMF51A2-1R6BS	Fuse	⚠	2
	QMV5005-004	Connector	for P. Head	1
	QMV5005-008	〃	for Remote Control	2
	QMV5005-007	〃	for LED	1
	QMF51A2-1R6	Fuse	KD-A77 A/E	2
	E43727-002	Wrapping Tab		55
	E40130-001	Tab		3
	TAZ000331-02	Fuse Holder	⚠	4
	QMV5005-003	Plug Ass'y	CN-11	1

Other P.W. Board Parts

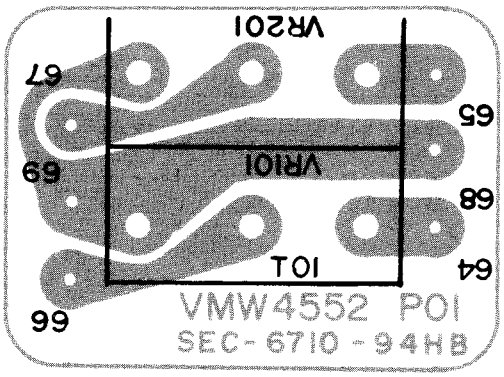
Slide switch



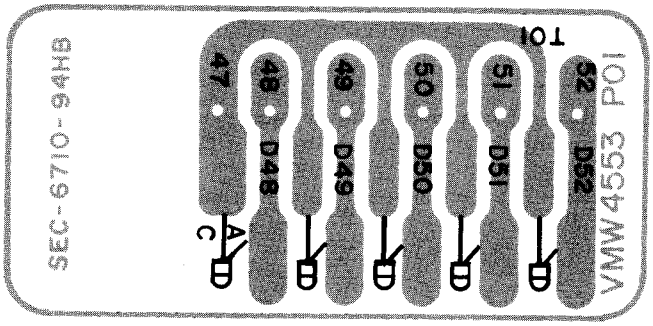
Hall IC



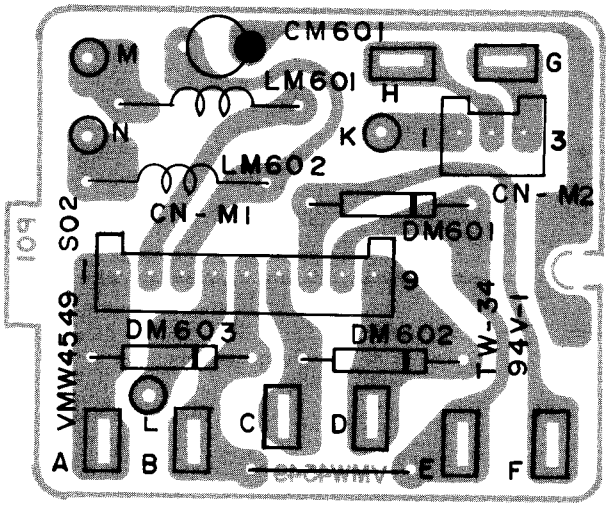
Variable resistor



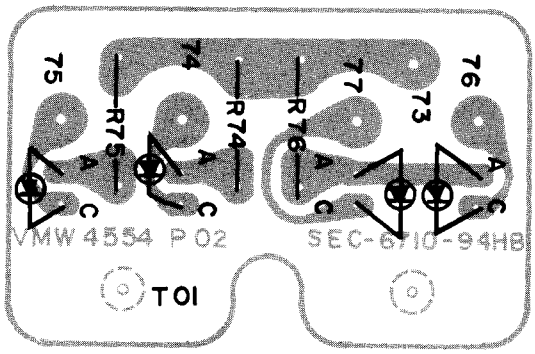
LED



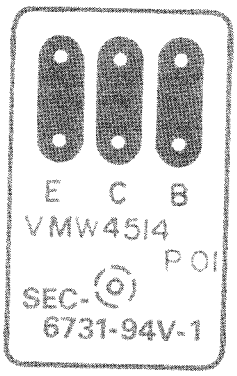
Connector



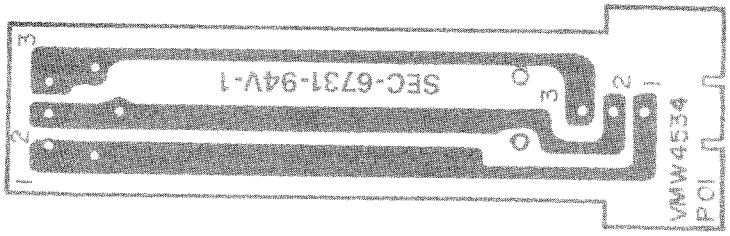
LED



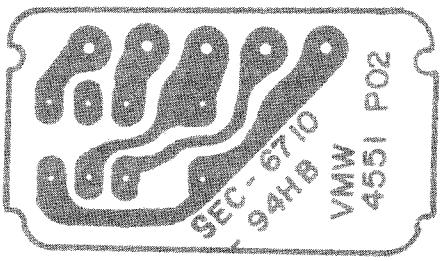
Transistor



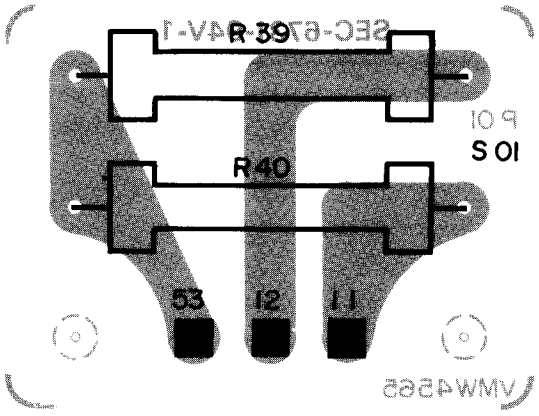
CrO_2 switch



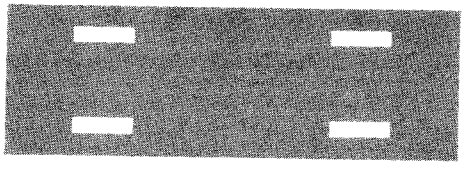
Timer and Memory switch



Resistor



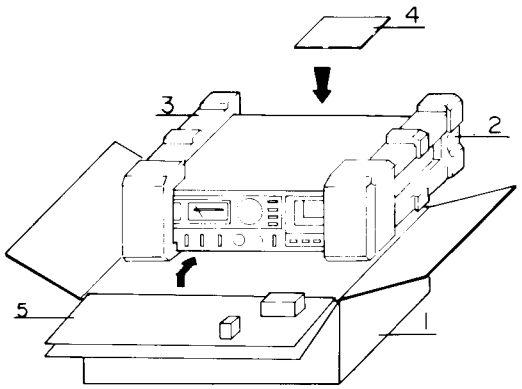
Pin jacks



Other P.W.B. Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
(Slide Switch)				
	VMW4522-001	P.W. Board (L)		1
	QSP0029-001	Slide Switch		2
	QMV5004-004	Connector		1
(Hall IC)				
	VMW4555-001	P.W. Board		1
	DN6835	Hall I.C.		1
	QMV5004-004	Connector		1
(Connector)				
	VMW4549-002	P.W. Board		1
	10E1-B	Si. Diode		3
	QMV5005-003	Connector		1
	QMV5005-009	Connector		1
	FG9010-001	Tab		8
	QEW41HA-105N	E. Capacitor		1
	T41572-001	Inductor		2
(CrO_2 Switch)				
	VMW4534-001	P.W. Board		1
	QSP0029-001	Slide Switch		1
	QMV5004-003	Connector		1
(Timer and Memory Switches)				
	*VMW4551-001	Switch P.W. Board	for Timer Memory	2
	QSS2301-101	Slide Switch		2
	LPSP2604Z	Screw		4
(Variable Resistor)				
	*VMW4552-001	P.W. Board	for V.R.	1
	QVE5A3A-054F	Variable Resistor		1
(Pin Jacks)				
	TAA345532-01	Circuit Board		1
	TAJ331301-03	Pin Jack Ass'y		1
(LED)				
	*VMW4553-001	P.W. Board	for LED	1
	*VKS4164-001	LED Holder		1
	TLR102	LED		
(LED)				
	VMW4554-001	P.W. Board		1
D74,75	SLB-26GGIN	LED		2
D76,77	SLB-26URIN	LED		2
R74,75	QRD142J-271S	C. Resistor	270Ω 1/4W	2
(Transistor)				
	VMW4514-001	P.W. Board		1
	VKL4264-002	Radiation Plate		1
X13	2SA715(B,S)	Si. Transistor		1
	LPSP3008ZS	Screw		1
	LPSP2606Z	Screw		1
	SBSB3006Z	Tapping Screw		1
(Resistor)				
	VMW4565-001	P.W. Board		1
R39	QRG039J-151	O.M.F. Resistor	150Ω 3W ⚠	1
R40	QRG029J-181	〃	180Ω 2W ⚠	1

Packing



Packing Material List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1.2.3	VPA3110-00B	Packing Case Ass'y	KD-A77 A/B/E/J/U	1
1.2.3	〃 -00F	〃	KD-A77 C	1
1	VPA3110-004	Case	KD-A77 A/B/E/J/U	1
1	〃 -006	〃	KD-A77 C	1
2	VPH2124-001	Cushion (L)		1
3	VPH2125-001	Cushion (R)		1
	TKS000501-01	Sheet	for Deck	1
	QPGA060-06005	Envelope	for Deck	1
	AP4056A-036	〃	for Provided Cord	1
4	QPGB024-03404	〃	for Instruction Book	1
5	*VPK3132-001	Front Pad		1

Accessories

Parts No.	Parts Name	Remarks	Q'ty
VMP0002-00A	PIN Cord		2
VYA4001-00A	Head Cleaning Stick		1
*VNN0046-301	Instruction Book		1
BT20029	Warranty Card	KD-A77 A	1
VND4013-001	Warning Label	KD-A77 A/B/E	1
T46328-003	Caution Label	KD-A77 A/B	1
TLJ000476-02	ANRS Seal		1
TLJ000477-02	Super ANRS Seal		1
VPZ4001-001	Serial Ticket	KD-A77 A/B/E/J/U	1
BT20013B	Guarantee Certificate	KD-A77 B	1
TJL000443-01	Seal	KD-A77 B	1
	BEAB Label	KD-A77 B	
QZL1002-003BS	Warning Label	KD-A77 B	1
VNC5004-001	Mark Sticker	KD-A77 B/E	1
BT2005C	Warranty Card	KD-A77 C	1
T44362-001	CSA Marker	KD-A77 C	1
TLT000505-01	UL/CSA Caution Label	KD-A77 C/J	1
T43758-003	Serial Ticket	KD-A77 C	1
T46328-004	Caution Label	KD-A77 E	1
BT20032	Warranty Card	KD-A77 J/U	1
BT20042	Special Reply Card	KD-A77 J/U	1
E7795-1	EP Mark	KD-A77 U	1
V04062-001	Siemens Plug	KD-A77 U	1
T46328-001	Caution Label	KD-A77 U	1

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